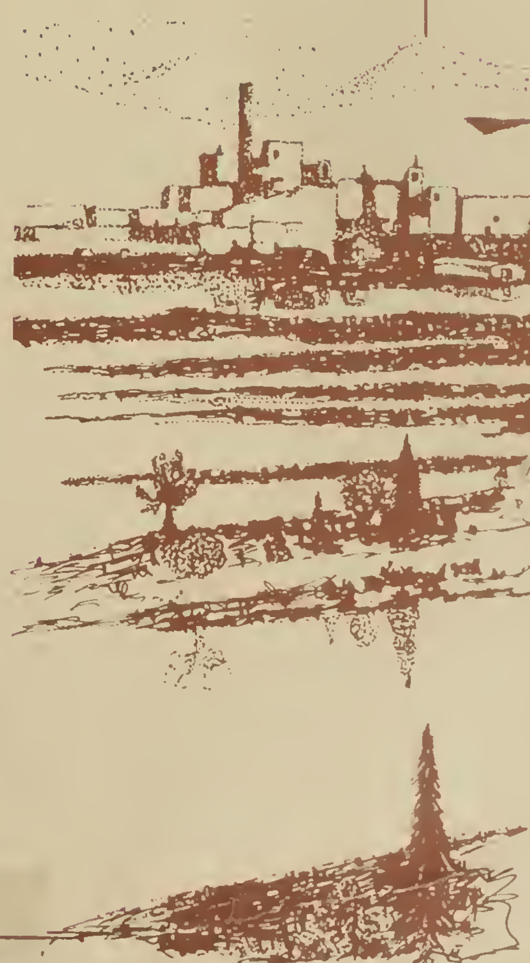
Champion International Frenchtown Mill

Discharge Permit MT-0000035

Data Report – Volume I



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- DATA REPORT -

LOWER CLARK FORK RIVER

WATER QUALITY MONITORING

1984 - 1985

VOLUME I

CHEMICAL, PHYSICAL AND BIOLOGICAL DATA

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Dedication

This report is dedicated to the memory of Robert N. Greene, Jr., an eight-year employee of the Montana Water Quality Bureau, who died on September 30, 1985 at the age of 34.

Rob was a true professional who cared. In his work with various sections of the Water Quality Bureau, he consistently went out of his way to investigate new development activities in order to insure compliance with water quality laws. He was a familiar face on the scene at every new mine, cyanide leach facility, train derailment or tank truck spill where surface or ground waters and fisheries were threatened. Rob set an example to others in the regulatory field, as he wholeheartedly pursued his commitment to water quality protection. He was admired by his many friends, acquaintances and contacts for his direct, honest style. Rob will be deeply missed.

Volume I: Chemical, Physical and Biological Data

Table of Contents

List of Tables

List of Tables (Continued)

List of Figures

Clark Fork-Champion Study Data Report

I. INTRODUCTION

A. Purpose and Scope

In the fall of 1983, the Water Quality Bureau of the Montana Department of Health and Environmental Sciences (DHES) prepared a Preliminary Environmental Review (PER) on the proposed modification of an existing waste discharge permit for Champion International's Frenchtown Mill. The decision before the agency was whether Champion's existing permit should be revised to allow the direct discharge of treated wastewater to the Clark Fork River throughout the year rather than only during spring runoff.

During the public review process, it became apparent that people were concerned about whether adequate data existed to conduct such an evaluation. The majority of public comments received during that public review process were relative to long term impacts rather than the impact associated with the proposed modification. While most of the comments received could not be supported by scientific documentation, it was obvious that people as far downstream as Idaho were concerned with possible downstream impacts.

Following considerable modification of the PER and a review of all existing technical data, the decision was made to temporarily modify the Champion permit for the period April 1984 to March 1986 to allow a year-round discharge of treated wastewater and to allow increases in annual loading rates for certain wastewater constituents. During the two year life of the temporary permit, the Water Quality Bureau agreed to conduct a detailed study of the lower Clark Fork to provide the additional information needed to address the public concerns which had been expressed. The data gathered during that time would serve as the basis for an Environmental Impact Statement (EIS) to be prepared by the Water Quality Bureau prior to a reissuance of the Champion permit in April 1986.

Since March of 1984, 18 months have been spent studying the lower Clark Fork, its three major tributaries, two major point-source discharges and four impoundments. At the same time, the State of Idaho has been conducting investigations on Lake Pend Oreille, into which the Clark Fork flows after leaving Montana.

The study of the river-lake system will continue, at least through 1986. However, for the purposes of preparing the EIS on the reissuance of Champion's temporary wastewater discharge permit in April 1986, the data used will represent study findings for the period early spring 1984 to early fall 1985.

This report presents the results of the lower Clark Fork study to date. Volume I describes the monitoring activities and

gives tabulated results for the Water Quality Bureau's lower Clark Fork study. Also included are listings of other pertinent data such as streamflow records, self-monitoring data for permitted municipal and industrial discharges to the Clark Fork (City of Missoula, Champion Frenchtown Mill), and river data compiled by the Plains Chapter of the Clark Fork River Watchers. Not included are interpretations of the information by the DHES, those analyses can be found in the department's draft environmental impact statement.

Volume II is a collection of reports presenting the findings of special studies conducted for the Water Quality Bureau by various agencies and individuals. Each of these examined an area of special concern in the lower Clark Fork system and include:

1. Reports by EPA Region X on three algal bioassays of Clark Fork River water which were conducted to determine nutrient limitations in the river and to predict the growth response of river algae under various nutrient loading rates.

2. The results of chronic bioassays of Clark Fork water and Champion wastewater conducted by EPA Region VIII using juvenile rainbow trout and a water flea, *Ceriodaphnia*. This information will help to predict the effects of the wastewater and other river contaminants on the growth and reproduction of the river's aquatic life.

3. A status report on a major fisheries study being conducted by the Montana Department of Fish, Wildlife and Parks. This study will inventory the kinds and numbers of fish present in the lower Clark Fork system and assess the effects of pollutants on fish numbers, reproduction and general health.

4. A report on the University of Montana's riffle community metabolism study designed to measure the effects of Champion's wastewater discharge on metabolic rates of benthic plants and animals in the river.

5. The findings of an extensive Clark Fork reservoir sediment study by the University of Montana which examined the chemical makeup of bottom sediments, and particularly metals, in the river's impoundments.

Also included is a summary of the findings of Idaho's independent study of the water quality and tropic status of Lake Pend Oreille.

B. Study Objectives

It has already been stated that the WQB's lower Clark Fork study was intended to provide information regarding the long-term effects of Champion wastewater discharge on the health of the river. In order to answer these questions, the study had to be sufficiently broad-based to quantify the overall health of the river throughout its lower length and to allow the examination of other major contaminant sources and their effects on the river. The specific objectives of the monitoring program as outlined in the Lower Clark Fork River Monitoring Plan (Water Quality Bureau, 1984) are as follows:

1. To establish a chemical, physical, and biological water quality baseline for the lower Clark Fork River in Montana.

2. To measure any changes in water quality resulting from modifications in the Champion International Frenchtown Mill wastewater discharge permit (year-round discharge).

3. To determine the contributions, environmental effects and downstream fate of water quality contaminants from various wastewater sources and tributaries along the river.

II. GENERAL DESCRIPTION OF THE STUDY

The study encompasses about 225 miles of the lower Clark Fork River from Turah (upstream from Milltown Dam) downstream to the Idaho Border, including the Blackfoot, Bitterroot and Flathead rivers. Idaho's water quality study, also described herein, began in the Clark Fork River near the Montana-Idaho Border and continued into Lake Pend Oreille. In Montana, 31 fixed water quality stations were established on the river, its four mainstem reservoirs and three major tributaries (Figure 1). In addition, 11 stations were established in deepwater pools between Frenchtown and Thompson Falls Reservoir. Descriptions of the 42 stations, a river mile index and the site location rationale are given in Table 1.

A variety of chemical, physical and biological water quality variables have been measured in the hundreds of samples collected from both shallow waters and from the bottoms of deepwater pools and reservoirs between March 1984 and August 1985. The actual monitoring approach has been described in detail in the monitoring plan (Water Quality Bureau, 1984). Tables 2 and 3 summarize the monitoring activities, sampling frequency, water quality variables that have been measured and the stations at which each type of monitoring activity was conducted.

Figure 1. Map of Study Area Showing Fixed Water Quality Monitoring Stations

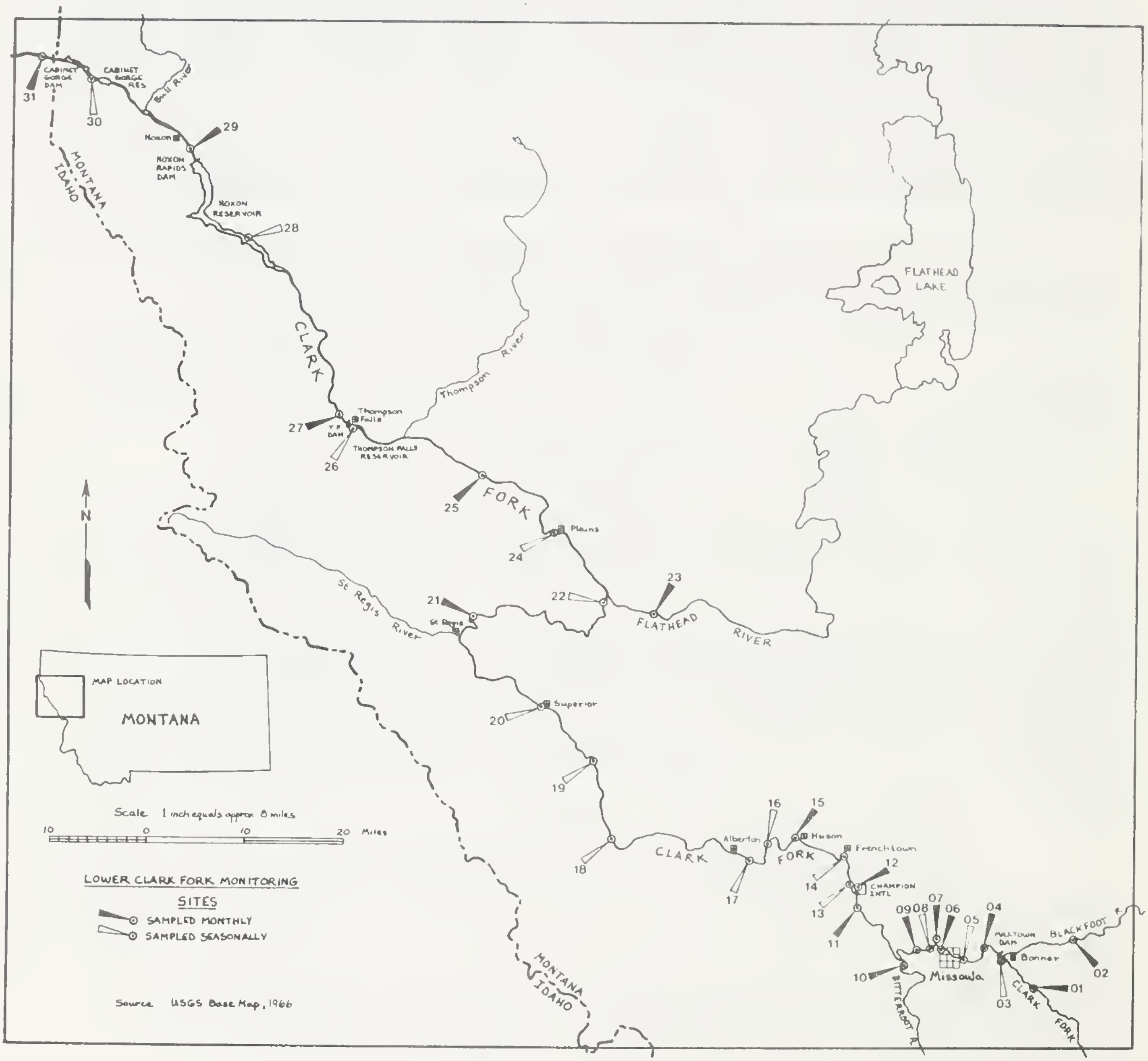

Table 1. Lower Clark Fork River Study Monitoring Station Descriptions.

A. Shallow-water Monitoring Stations

Station Number	Station Name	Legal Description	River Mile	Average Annual Flow (cfs)	Station Rationale
01	Clark Fork at Turah	T12N R18W Sec. 01 CBC	0.0	1712	Control station above Milltown Reservoir. Known metals problem from historic mining and smelting activities in headwaters.
02	Blackfoot River near mouth	T13N R17W Sec. 09 BDD	6.0	1645	Major tributary to the Clark Fork and a control station above Milltown Reservoir.
03	Clark Fork in Milltown Reservoir	T13N R18W Sec. 20 DAA	6.0	—	Milltown Reservoir is a designated Superfund site and has trapped large quantities of metals originating upstream in the Clark Fork drainage
04	Clark Fork below Milltown Dam	T13N R18W Sec. 18 CBC	8.5	3051	Station allows comparison of metals and other pollutants from above to below reservoir.
05	Clark Fork above Missoula	T13N R19W Sec. 22 DDD	12.5	3051	Control station above City of Missoula.
06	Clark Fork above Missoula wastewater treatment plant (WWTP)	T13N R19W Sec. 18 DDA	15.9	3161 (Est.)	Station allows examination of effects of City of Missoula on Clark Fork water quality.
07	Missoula WWTP discharge to Clark Fork	T13N R19W Sec. 18 DDA	16.0	8.9*	Large volume point source municipal discharge to Clark Fork.
08	Clark Fork just below Missoula WWTP discharge	T13N R19W Sec. 18 DDD	16.1	3170 (Est.)	Station located in the plume of the WWTP discharge prior to complete mixing. Worst-case situation.
09	Clark Fork at Shuffield's (Schmidt Construction Co.)	T13N R20W Sec. 24 AAD	18.0	3170 (Est.)	Station allows examination of effects of Missoula WWTP after complete mixing.
10	Bitterroot River near mouth	T13N R20W Sec. 26 CBD	21.0	2377 (Est.)	Major tributary to the Clark Fork.
11	Clark Fork at Harper's Bridge	T14N R21W Sec. 35 ADA	28.5	5547	Control station above Champion Frenchtown Mill.
12	Champion International Frenchtown Mill wastewater surface discharge				Large volume point source industrial discharge to Clark Fork and the primary focal point of this study.
	Discharge 001	T14N R21W Sec. 23 DBB	31.0	9.2 (Averaged combined flow)*	
	Discharge 002	T14N R21W Sec. 14 BBC	32.0		

Table 1.A. (cont'd.)

Station Number	Station Name	Legal Description	River Mile	Average Annual Flow (cfs)	Station Rationale
13	Clark Fork at Marcure (0.5 miles below Champion surface discharge)	T14N R21W Sec. 11 BCB	32.5	5560 (Est.)	Worst-case situation (mixing incomplete) below Champion surface discharge, rapid infiltration basins and storage ponds seepage areas.
14	Clark Fork near Frenchtown (4 miles below Champion surface discharge)	T14N R21W Sec. 03 BA	36.0	5560 (Est.)	Station located below additional seepage areas. Mixing of surface discharge well underway.
15	Clark Fork at Huson**			5560 (Est.)	Station where routine Champion self-monitoring and State compliance monitoring is performed. Surface discharge and seepage well-mixed.
	Sheffer Ranch	T15N R22W Sec. 36 BBB	39.0		
	Sixmile Station	T15N R22W Sec. 26 ACB	40.5		
16	Clark Fork at Ninemile	T15N R22W Sec. 32 DBB	46.0	—	Stations 16-21 allow examination of the effects of the Missoula WWTP and Champion discharges and other pollutants (e.g. metals) with increasing distance from their sources. They also allow the identification of any new significant water quality contaminant sources.
17	Clark Fork near Alberton	T14N R23W Sec. 12 AAB	51.0	—	
18	Clark Fork at Tarkio	T15N R25W Sec. 34 ADC	70.0	—	
19	Clark Fork at Lozeau	T16N R25W Sec. 29 DBA	79.0	—	
20	Clark Fork at Superior	T17N R26W Sec. 34 ABB	89.0	—	
21	Clark Fork near St. Regis	T18N R27W Sec. 09 CCC	105.0	7580	
22	Clark Fork above Flathead River confluence	T19N R25W Sec. 33 DAD	128.5	7580	Control station for Clark Fork water quality above Flathead River.
23	Flathead River near mouth	T18N R24W Sec. 05 DDC	129.0	12400	Major tributary to the the Clark Fork.
24	Clark Fork at Plains	T20N R26W Sec. 34 ABB	138.0	19930	Station allows examination of Clark Fork water quality after mixing with Flathead River.
25	Clark Fork above Thompson Falls Reservoir	T21N R27W Sec. 33 BCB	153.0	19980	Control station above Thompson Falls Reservoir.
26	Clark Fork in Thompson Falls Reservoir	T21N R29W Sec. 08 BCC	169.0	—	Station allows examination of changes in Clark Fork water quality [illegible] it passes through the reservoir.

Table 1.A. (cont'd)

Station Number	Station Name	Legal Description	River Mile	Average Annual Flow (cfs)	Station Rationale
27	Clark Fork below Thompson Falls Dam	T22N R30W Sec. 36 BDC	173.0	20702	Station allows comparison of water quality from above to below the reservoir. It also serves as a control station above Noxon Rapids Reservoir.
28	Clark Fork in Noxon Rapids Reservoir	T24N R32W Sec. 01 DDD	198.0	—	Same rationale as for 26 above.
29	Clark Fork below Noxon Rapids Dam***			21220	Station allows comparison of water quality from above to below reservoir and acts as a control station above Cabinet Gorge Reservoir.
	Above Rock Creek	T26N R32W Sec. 32 AAC	209.0		
	At Noxon Bridge	T26N R32W Sec. 19 DAB	210.0		
30	Clark Fork in Cabinet Gorge Reservoir	T27N R34W Sec. 28 DDB	224.0	—	Same rationale as for 26 above.
31	Clark Fork below Cabinet Gorge Dam	T27N R3E Sec. 20 DCC	232.0	22410	Station allows comparison of water quality from above to below Cabinet Gorge Reservoir. It also indicates quality of Clark Fork as it enters Lake Pend Oreille. Station is monitored by both Montana and Idaho and serves as a check on each state's data quality.

* Average flow rates for Missoula WWTP and Champion discharges are averages for the period July 1984 - June 1985.

** Shefer Ranch station sampled during seasonal comprehensive monitoring runs. Routine water chemistry monitoring conducted at Sixmile Station because of easier access.

*** Station above Rock Creek sampled through 1984. Station relocated downstream to Noxon Bridge in 1985 to provide baseline data for proposed developments in the Rock Creek drainage.

Table 1. (cont'd)

B. Deep-water Monitoring Stations

Station Number	Station Name	Legal Description	River Mile	Average Annual Flow (cfs)	Station Rationale
03	Clark Fork arm of Milltown Reservoir	T13N R18W Sec. 21 CA	6.0	—	High concentrations of metals in bottom sediments.
13	Clark Fork - Marcure Pool	T14N R21W Sec. 3 DB	32.5	—	Stations 13-22 are located between the Champion Frenchtown Mill and the Flathead River confluence. These stations were established to examine whether there is appreciable settling of organic solids from the Missoula WWTP and Champion discharges in deep river pools and whether such deposition affects Clark Fork water quality. A second objective was to investigate the fate of metal-bearing sediments originating upstream and their subsequent effects.
15	Clark Fork - Huson Pool	T15N R22W Sec. 26 DC	40.0	—	
16	Clark Fork - Ninemile Pool	T15N R22W Sec. 32 ACC	46.0	—	
17	Clark Fork - Fish Creek Pool	T14N R25W Sec. 1 C	69.5	—	
18	Clark Fork - Tarkio Pool	T15N R25W Sec. 27 B	71.0	—	
19.5	Clark Fork - Superior Pool	T16N R25W Sec. 13 CD	85.0	—	
20	Clark Fork - LaVista Pool	T17N R27W Sec. 19 D	91.5	—	
20.5	Clark Fork - Red Hill Pool	T17N R27W Sec. 5 BB	100.0	—	
21	Clark Fork - Boxcar Pool	T18N R27W Sec. 20 AC	105.0	—	
21.5	Clark Fork - Toole Pool	T18N R27W Sec. 10 DC	107.0	—	
22	Clark Fork - Flathead Pool	T18N R25W Sec. 9 AA	123.0	—	
26	Thompson Falls Reservoir			—	Deep water reservoir stations were selected to examine fate and effects of metals and organic solids originating upstream and which may have deposited in the reservoirs. A second objective was to examine oxygen depletion due to reservoir stratification.
	Near boat dock	T21N R29W Sec. 8 DB	169.0		
	Below sawmill	T21N R29W Sec. 9 CBC	169.0		
28	Noxon Rapids Reservoir			—	
	Near Trout Creek	T24N R31W Sec. 16 BC	198.0		
	North Shore Campground	T24N R32W Sec. 12 AAD	200.0		
30	Cabinet Gorge Reservoir			—	
	Near Bull River	T26N R33W Sec. 9 DA	225.0		
	Near Heron	T27N R34W Sec. 26 DC	230.0		

Table 2. Monitoring Activities, Frequency and Water Quality Variables

A. Chemical and Physical Water Quality Monitoring

1. Shallow-water Monitoring: Monthly during low streamflow and bi-weekly during spring runoff

   Streamflow
   Field temperature
   Metals (total recoverable and/or acid soluble iron, copper, zinc, cadmium, arsenic and manganese)
   Nutrients (nitrate + nitrite, ammonia and Kjedahl nitrogen, ortho-phosphorus and total phosphorus)
   Total suspended solids
   Volatile suspended solids
   Hardness

2. Shallow-water Monitoring: Seasonally (spring, summer, fall)

   Streamflow
   Field temperature
   Field pH
   Field dissolved oxygen
   Biochemical oxygen demand
   Chemical oxygen demand
   Color (natural pH and pH adjusted)
   Metals (total recoverable copper, zinc, cadmium, arsenic and manganese)
   Nutrients (nitrate + nitrite, ammonia and Kjeldahl nitrogen, ortho-phosphorus and total phosphorus)
   Total suspended solids
   Volatile suspended solids
   Lab pH
   Specific conductance
   Hardness

3. Deep-water Monitoring: Seasonally (spring, summer,fall)

   Top water and bottom water samples for:

   Field temperature
   Field pH
   Field dissolved oxygen
   Metals (total recoverable or acid-soluble and dissolved iron, copper, zinc, cadmium, arsenic, manganese, lead, chromium and silver)

Table 2. (cont'd) Monitoring Activities, Frequency and Water Quality Variables

Lab pH
Specific conductance
Hardness

4. Bottom Sediment: Seasonally (spring, summer, fall)

Field hydrogen sulfide (qualitative)
Percent organic content
Metals (total recoverable and total iron, copper, zinc, cadmium, arsenic, manganese, lead, chromium and silver)

5. Surface Diurnal Dissolved Oxygen: Once annually in summer -- every 3 hours for 24 hours

Field temperature
Field dissolved oxygen

6. Organic Analysis: Four times in 1984-1985

Analysis for organic priority pollutants
Scan analysis for other organic constituents

B. Biological Water Quality Monitoring

1. Shallow-water Monitoring: Seasonally (spring, summer, fall)

Macroinvertebrate traveling kicknet samples
Composite periphyton collections
Periphyton chlorophyll/biomass grab samples
Periphyton chlorophyll/biomass accrual on artificial substrates (summer 1984 only)

2. Deep-water Monitoring: Seasonally (spring, summer, fall)

Macroinvertebrate dredge (grab) samples

3. Open-water Monitoring: Seasonally (spring, summer, fall)

Phytoplankton tow samples
Phytoplankton chlorophyll samples
Secchi Disc transparency

Table 2. (cont'd) Monitoring Activities, Frequency and Water Quality Variables

C. Aesthetics Monitoring (included in Volume II)

1. Aesthetics Reconnaisance: Continuously throughout study

2. Foaming, Tendency and Stability: Once in 1984

3. Quantitative Surfactant Testing: Once in 1985

4. River and Wastewater Foam Analysis: Once in 1985

   Analysis for organic priority pollutants
   Scan analysis for other organic constituents
   Microscopic analysis of constituent solids

5. Fish Flesh Taste Tests: Once each in 1985

   Taste and odor analysis of hatchery trout exposed to various dilutions of Champion wastewater

   Taste and odor analysis of resident Clark Fork River trout

6. Champion Wastewater Microscopic Analysis: Monthly or bi-weekly from October 1984 to July 1985

   Identification of constituent organic solids

Table 3. Stations at Which Each Monitoring Activity was Performed

Station	Chemical/Physical Monitoring						Biological Monitoring					Aesthetics Monitoring	
	Shallow-water Monitoring -Monthly or biweekly	Shallow-water Monitoring -Seasonally	Deep-water Monitoring	Bottom Sediments	Diurnal Dissolved Oxygen	Organic Analysis	Shallow-water Monitoring	Deep-water Monitoring	Open-water Monitoring	Periphyton Artificial Substrates	Wastewater Microscopic Analysis	River Foam Analysis	Fish Flesh Taste Tests
01 Clark Fork at Turah	X	X			X		X			X			
02 Blackfoot River	X	X					X						
03 Milltown Reservoir		X	X	X				X	X				
04 Clark Fork blw. Milltown Dam	X	X					X						
05 Clark Fork abv. Missoula		X					X						
06 Clark Fork abv. Missoula WWTP	X	X			X		X			X		X	
07 Missoula WWTP	X	X											
08 Clark Fork blw. Missoula WWTP		X					X			X			
09 Clark Fork at Shuffields	X	X			X		X			X			
10 Bitterroot River	X	X					X					X	
11 Clark Fork at Harper Bridge	X	X			X	X	X			X			X
12 Champion discharge(s)	X	X				X					X	X	X
13 Clark Fork at Marcure		X					X			X			X
14 Clark Fork nr. Frenchtown		X					X						X
15 Clark Fork at Huson	X	X			X		X			X			
16 Clark Fork at Ninemile		X			X							X	
17 Clark Fork nr. Alberton		X			X								
18 Clark Fork at Tarkio		X											
19 Clark Fork at Lozeau		X			X		X						
20 Clark Fork at Superior		X			X					X			
21 Clark Fork nr. St. Regis	X	X			X		X					X	
22 Clark Fork abv. Flathead		X			X								
23 Flathead River	X	X			X		X						
24 Clark Fork at Plains		X			X		X			X			
25 Clark Fork abv. T. Falls Res.	X	X					X						
26 T. Falls Reservoir		X	X	X				X	X				
27 Clark Fork blw. T. Falls Dam	X	X					X						
28 Noxon Rapids Reservoir		X	X	X				X	X				
29 Clark Fork blw. Noxon Dam	X	X					X						
30 Cabinet Gorge Reservoir		X	X	X				X	X				
31 Clark Fk. blw. Cab. Gorge Dam	X	X					X						
13 Marcure Pool			X	X				X					
15 Huson Pool			X	X				X					
16 Ninemile Pool			X	X				X					
17 Fish Creek Pool			X	X				X					
18 Tarkio Pool			X	X				X					
19.5 Superior Pool			X	X				X					
20 LaVista Pool			X	X				X					
20.5 Red Hill Pool			X	X				X					
21 Boxcar Pool			X	X				X					
21.5 Toole Pool			X	X				X					
22 Flathead Pool			X	X				X					

III. MONITORING ACTIVITIES AND RESULTS

Rationale, sample collection and analysis methods, stations sampled, sampling frequency and tabulated results for each grouping of water quality variables are presented in the following pages. Quality assurance measures taken to assure data precision, accuracy, representativeness and completeness are described in the Quality Assurance Project Plan: Lower Clark Fork River Monitoring (Water Quality Bureau, 1984). Quality assurance limits (precision, accuracy and detection limits) for chemical/physical analyses performed by the Chemistry Laboratory Bureau of the Montana Department of Health and Environmental Sciences are given in Appendix B of this report. Quality assurance limits for heavy metals analyses performed by Energy Labs, Inc. of Billings are also included in Appendix B. Quality assurance data pertaining to the organic analyses performed by the EPA Region VIII laboratory are included with the analysis results in Table 7.

A. Chemical and Physical Water Quality Monitoring

1. Shallow-water Monitoring: River, Effluent and Reservoir Stations.

a. Rationale

Water samples for chemical and physical analysis were collected on a regular basis at 29 river and reservoir stations and from the two primary wastewater discharges (City of Missoula and Champion). These samples allowed the bureau to quantify the contributions of water quality contaminants from various waste sources and the major tributaries. They also helped to establish nutrient and suspended solids budgets for the river and assess the instream consequences of cumulative contaminant loading. Sampling during high streamflows helped estimate the amount of deposition of organic and inorganic solids in the mainstem reservoirs when retention time was shortest and Champion International was discharging directly to the river.

b. Methods

The 29 river and reservoir stations and two primary wastewater discharges were sampled for a variety of chemical and physical parameters between March 1984 and August 1985. Unfiltered surface grab samples for heavy metals and algal nutrients, and depth-integrated samples for total and volatile suspended solids were collected monthly during low stream flows and at least twice monthly during high flows at 16 of the 31 stations. Three times annually (spring, summer, fall), synoptic water quality monitoring (using estimates of river travel time to follow the same "slug" of water downstream) was conducted at all 31 stations. During the synoptic monitoring runs, a more extensive list of water quality variables were analyzed. Several

times during the course of the study, samples of Champion wastewater and a river control station (Harper Bridge) were collected for analysis of a lengthy list of organic compounds called priority pollutants. The samples were also "screened" for the presence of all other organic constituents not on the priority pollutant list.

Sample collection and analysis methods for each chemical/physical water quality variable and the analyzing laboratory are summarized in Table 4. Sample preservation and handling methods and the scheme for determining streamflows at each station are described in Appendix C.

c. Results

Individual chemical and physical analysis data are presented in tabular form by sampling date in Table 5. A statistical summary of the data giving ranges and means is given in Table 6. Results of Champion wastewater and river water organic analyses are tabulated in Table 7. The reviewer is referred to Appendix D of this report for a summary of field observations recorded at the time of sample collection which may have affected analysis results.

Table 4. Sample Collection and Analysis Methods for Chemical/Physical Shallow-water Monitoring

Variable	Collection Method	Analytical Method	Laboratory
Water Temperature (°C) (T(C))	—	Instream field determination	Field personnel
Suspended Solids (mg/l)	Effluents grab sampled. Streams depth-integrated from shore to limit of wadeability. EWI method. USGS p. 3-26 3).		MDHES Chem Lab
Total Suspended Solids (TSS)		EPA 160.2 2)	
Volatile Suspended Solids (VOL TSS)		EPA 160.4 2)	
Nutrients (mg/l)			MDHES Chem Lab
Nitrate + Nitrite (NO_3 + NO_2 as N)		EPA 353.2 2)	
Ammonia Nitrogen (NH_3 as N)		EPA 350.1 2)	
Kjeldahl Nitrogen (KJLD N)		EPA 351.2 2)	
Ortho Phosphorus (ORTHO P)		EPA 365.1 2)	
Total Phosphorus (TOTAL P)		EPA 365.1 2)	
Hardness (mg/l) as $CaCO_3$) (HARD)	Grab Sample	EPA 200.7 2)	MDHES Chem Lab
Total Recoverable Metals (mg/l)	Grab Sample		MDHES Chem Lab
Iron (FE T.R.)		EPA 200.7 2)	
Copper (CU T.R.)		EPA 200.7 2)	
Zinc (ZN T.R.)		EPA 200.7 2)	
Manganese (MN T.R.)		EPA 200.7 2)	
Cadmium (CD T.R.)		EPA 200.7 2)	
Arsenic (AS T.R.)		EPA 200.7 2) (automated)	
pH, Field and Lab (standard pH units) (PH FLD, PH LAB)	Grab Sample	EPA 351.2 2)	Field personnel and MDHES Chem Lab
Specific Conductance (µmhos/cm @ 25°C) (SPEC COND)	Grab Sample	EPA 120.1 2)	MDHES Chem Lab
Dissolved Oxygen (mg/l) (D.O.)	Grab Sample	EPA 360.2 2)	Field personnel
Biochemical Oxygen Demand (mg/l) (BOD_5)	Grab Sample	EPA 405.1 2)	MDHES Chem Lab
Chemical Oxygen Demand (mg/l) (COD)	Grab Sample	EPA 410. 2)	MDHES Chem Lab
Color (standard color units) (COLOR NAT, COLOR PH AD)	Grab Sample	EPA 110.1 2)	MDHES Chem Lab
Sulfate (mg/l) (SO_4)	Grab Sample	EPA 375.2 2)	MDHES Chem Lab

Table 4. (cont'd.)

Variable	Collection Method	Analytical Method	Laboratory
Acid Soluble Metals (mg/l)	Grab Sample		Energy Labs, Inc.
Copper (CU A.S.)	followed by lab	EPA 220.2 [2]	
Zinc (ZN A.S.)	filtration (0.45 μ)	EPA 289.2 [2]	
Cadmium (CD A.S.)	after 48 hours.	EPA 213.2 [2]	
Lead (PB A.S.)		EPA 2[illegible].2 [2]	
GC/MS Priority Pollutant and Scan Analysis (ug/l)	Grab Sample	EPA 608 [1]	EPA Region VIII Chem Lab
		EPA 624 [1]	
		EPA 625 [1]	
		EPA 1624 [1]	
		EPA 1625 [1]	

References

1) Federal Register, Vol. 49, No. 209, Appendix A, October 26, 1984.

2) "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020 U.S. Environmental Protection Agency, 1983 (Revised).

3) "National Handbook of Recommended Methods for Water-data Acquisition," U.S. Geological Survey, June, 1978.

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON MARCH 5-9, 1984

	STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01	TURAH	05	1000	851.	1.5	8.2	1.6	0.06	<0.01	0.2	0.016	0.02	190	0.12	<0.01	0.03	0.03	<0.005	0.007
02	BLACKFOOT	05	1100	552.	1.0	3.7	.9	<0.01	<0.01	0.2	0.004	<0.01	134	0.08	<0.01	0.008	0.005	<0.005	0.001
03	IN MILLTWN	05	1230		2.0	3.8	.9	0.06	<0.01	0.1	0.014	0.02	185	0.11	0.01	0.02	0.04	<0.005	0.006
04	BEL MILLTN	06	0700	1420.	1.5	4.3	.8	0.03	<0.01	0.1	0.009	0.01	168	0.09	<0.01	0.02	0.02	<0.005	0.004
05	ABV MSLA	06	0830	1420.	1.5	5.2	1.1	0.02	<0.01	0.1	0.005	<0.01	167	0.09	0.01	0.02	0.02	<0.005	0.004
06	ABV STP	06	1000	1420.	2.0	4.0	1.0	0.02	0.02	0.1	0.001	0.01	165	0.08	0.01	0.02	0.02	<0.005	0.004
07	STP EFFLNT	06	0930	9.92	12.0	7.0	6.0	0.01	19.3	33.	4.60	5.49	162	0.03	<0.01	0.06	0.01	<0.005	0.002
08	BEL STP	06	1030	1430.	4.0	4.8	1.4	0.02	4.20	5.0	0.79	0.78	158	0.07	<0.01	0.03	0.02	0.005	0.004
09	SHUFFIELDS	06	1115	1430.	2.0	3.9	.9	<0.01	0.11	0.2	0.040	0.05	158	0.07	<0.01	0.02	0.02	<0.005	0.004
10	BITTERROOT	05	1545	1040.	3.0	4.2	1.0	0.09	<0.01	0.1	0.008	<0.01	65	0.10	<0.01	<0.005	0.02	<0.005	<0.001
11	HARPER BR	06	1745	2470.	4.5	6.0	1.2	0.07	0.01	0.3	0.017	0.03	123	0.07	<0.01	0.01	0.02	<0.005	0.003
12	CHAMP 001																		
12	CHAMP 003	06	1430	0.0	4.0	167.5	146.7	<0.01	3.1	18.	0.86	2.28	128	0.38	<0.01	0.05	0.69	0.006	0.002
13	MARCURE	06	2000	2470.	4.0	6.2	1.2	0.06	0.02	0.3	0.024	0.04	127	0.12	<0.01	0.01	0.11	0.006	0.004
14	FRENCHTOWN	07	1430																
15	HUSON	07	0015	2470.	4.0	7.6	1.4	0.07	<0.01	0.4	0.017	0.03	126	0.12	<0.01	0.02	0.05	0.005	0.003
16	9-MILE	07	0300		3.0	8.5	1.6	0.06	<0.01	0.4	0.014	0.05	125	0.11	<0.01	0.01	0.05	0.005	0.003
17	ABV ALBERT	07	0500		3.0	9.6	1.8	0.05	<0.01	0.4	0.014	0.03	124	0.13	<0.01	0.01	0.05	0.005	0.003
18	TARKIO	07	1130		4.0	9.1	1.8	0.05	<0.01	0.3	0.018	0.03	123	0.09	<0.01	0.01	0.03	0.006	0.002
19	LOZEAU	07	1600		5.0	10.	1.9	0.05	<0.01	0.6	0.016	0.03	123	0.12	<0.01	0.02	0.06	0.006	0.003
20	SUPERIOR	07	1800		5.0	5.5	1.4	0.03	<0.01	0.3	0.010	0.02	120	0.07	<0.01	0.007	0.02	0.006	0.002
21	BEL ST REG	08	0900	3220.	3.0	5.7	1.2	0.02	0.01	0.3	0.005	0.02	123	0.08	<0.01	0.03	0.03	0.008	0.003
22	ABV FLATHD	08	1045	3220.	4.0	4.7	1.1	<0.01	<0.01	0.3	0.002	0.02	115	0.05	<0.01	0.009	0.02	0.007	0.003
23	FLATHEAD R	08	1145	11080.	3.0	2.2	.5	0.02	<0.01	0.2	<0.001	<0.01	88	0.02	<0.01	<0.005	0.005	0.005	<0.001
24	PLAINS	08	1300	14300.	3.5	3.9	.9	0.01	<0.01	0.2	<0.001	<0.01	93	0.03	<0.01	<0.005	0.008	0.006	<0.001
25	ABV T FALL	08	1530	14300.	4.5	1.9	.5	<0.01	<0.01	0.3	<0.001	<0.01	93	0.03	<0.01	<0.005	0.009	<0.005	<0.001
26	IN T FALLS	08	1630		4.0	1.8	.5	<0.01	<0.01	0.1	<0.001	<0.01	94	0.02	<0.01	<0.005	0.01	0.008	0.001
27	BEL T FALL	09	0845	15317.	4.0	3.8	.6	<0.01	<0.01	0.3	<0.001	<0.01	94	0.04	<0.01	0.012	0.02	0.006	<0.001
28	IN NOXON	09	1130		4.0	2.2	.5	0.02	0.01	0.1	0.002	<0.01	93	0.04	<0.01	<0.005	0.02	<0.005	0.001
29	BEL NOXON	09	1215	10300.	6.0	.6	.3	0.08	<0.01	0.1	<0.001	<0.01	93	0.02	<0.01	<0.005	0.007	<0.005	<0.001
30	IN CAB GOR	09	1330		3.0	1.7	.5	0.03	<0.01	0.1	<0.001	<0.01	90	0.03	<0.01	<0.005	0.01	<0.005	0.001
31	BEL CAB GO																		

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. WHEN CHAMPION WAS NOT DIRECT DISCHARGING AS INDICATED BY 0.0 FLOW, SAMPLES WERE COLLECTED FROM STORAGE PONDS.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON MARCH 5-9, 1984

	STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01	TURAH	05	1000	8.30	8.37	410	12.5	<2.0	12.1	6.1	6.1					
02	BLACKFOOT	05	1100	8.25	8.41	265	13.0	<2.0	12.5	9.0	8.9					
03	IN MILLTWN	05	1230	8.02	8.17	397	11.6	<2.0	13.2	7.0	6.8					
04	BEL MILLTN	06	0700	8.25	8.44	351	12.1	<2.0	9.	6.8	6.1					
05	ABV MSLA	06	0830	8.30	8.45	349	12.2	2.5	<5.	6.9	6.7					
06	ABV STP	06	1000	8.38	8.52	342	12.9	<2.0	<5.	7.6	6.6					
07	STP EFFLNT	06	0930	7.20	7.66	753	6.7	9.8	34.3	27.5	25.7					
08	BEL STP	06	1030	7.75	8.16	413	11.8	3.5	11.1	11.3	10.6					
09	SHUFFIELDS	06	1115	8.50	8.67	344	13.5	<2.0	<5.	8.4	6.4					
10	BITTERROOT	05	1545	8.05	8.15	148	12.6	<2.0	11.5	5.9	5.8					
11	HARPER BR	06	1745	8.60	8.66	271	13.7	2.3	<5.	6.6	5.7					
12	CHAMP 001															
12	CHAMP 003	06	1430	7.67	8.05	2528		113.	852.	787.	755.					
13	MARCURE	06	2000	8.44	8.45	316	12.3	<2.0	18.4	21.6	19.8					
14	FRENCHTOWN	07	1430													
15	HUSON	07	0015	8.25	8.44	284	12.0	<2.0	<5.	9.1	9.0					
16	9-MILE	07	0300	8.32	8.34	280	12.1	<2.0	<5.	9.1	8.4					
17	ABV ALBERT	07	0500	8.20	8.33	281	12.5	<2.0	<5.	9.3	8.9					
18	TARKIO	07	1130	8.20	8.32	270	12.6	<2.0	<5.	8.4	8.4					
19	LOZEAU	07	1600	8.45	8.46	277	13.1	<2.0	<5.	8.6	8.7					
20	SUPERIOR	07	1800	8.67	8.65	268	13.3	<2.0	<5.	8.4	9.0					
21	BEL ST REG	08	0900	8.15	8.30	273	11.8	<2.0	<5.	7.2	7.4					
22	ABV FLATHD	08	1045	8.33	8.56	262	12.5	<2.0	<5.	[illegible]	6.6					
23	FLATHEAD R	08	1145	8.05	8.26	174	12.6	<2.0	<5.	0.5	0.5					
24	PLAINS	08	1300	8.36	8.41	195	13.2	<2.0	<5.	2.0	1.9					
25	ABV T FALL	08	1530	8.28	8.37	192	13.0	<2.0	<5.	2.2	2.4					
26	IN T FALLS	08	1630	8.23	8.36	200	12.6	<2.0	<5.	2.0	1.9					
27	BEL T FALL	09	0845	8.27	8.44	202	12.7	<2.0	<5.	1.9	1.9					
28	IN NOXON	09	1130	8.10	8.29	194	12.5	<2.0	<5.	1.8	1.9					
29	BEL NOXON	09	1215	8.10	8.20	195	11.9	<2.0	<5.	0.5	0.3					
30	IN CAB GOR	09	1330	8.04	8.27	190	12.9	<2.0	<5.	1.7	1.5					
31	BEL CAB GO															

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR([illegible] OR UNITS). A.S. MEANS A[illegible] SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON APRIL 4-6, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	04	1000	967.	6.5	10.2	2.3	0.01	0.01	0.2	0.009	0.02							
02 BLACKFOOT	04	1030	816.	5.0	9.1	2.3	<0.01	<0.01	0.2	0.003	0.01							
03 IN MILLTWN																		
04 BEL MILLTN	04	1200	1890.	7.0	7.7	1.4	0.04	0.01	0.4	0.006	0.01							
05 ABV MSLA																		
06 ABV STP	04	1230	1890.	8.0	8.9	1.6	<0.01	0.01	0.3	0.006	0.01							
07 STP EFFLNT	04	1300	11.14	12.5	54.8	48.2	0.01	13.	24.	5.23	7.50							
08 BEL STP																		
09 SHUFFIELDS	04	1330	1900.	9.0	8.0	1.7	0.01	0.06	0.3	0.025	0.03							
10 BITTERROOT	04	1400	1440.	9.0	6.0	1.4	0.03	0.01	0.3	0.006	0.01							
11 HARPER BR	04	1430	3340.	9.0	8.4	1.7	0.02	0.01	0.3	0.012	0.02							
12 CHAMP 001																		
12 CHAMP 003	04	1500	0.0	12.0	166.3	151.	0.01	4.4	22.	2.30	4.30							
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	04	1545	3340.	9.0	9.4	2.0	0.01	0.01	0.4	0.021	0.03							
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	04	1730	4380.	8.5	7.8	1.6	0.01	0.01	0.4	0.010	0.01							
22 ABV FLATHD																		
23 FLATHEAD R	04	2015	6620.	7.5	1.8	.6	0.01	0.01	0.2	0.001	<0.01							
24 PLAINS																		
25 ABV T FALL	05	0845	11200.	8.0	4.6	1.0	0.01	0.01	0.3	0.001	<0.01							
26 IN T FALLS																		
27 BEL T FALL	05	1130	11063.	8.0	3.5	.9	<0.01	<0.01	0.2	0.001	<0.01							
28 IN NOXON																		
29 BEL NOXON	06	1530	15500.	6.0	.8	.5	0.04	<0.01	0.1	0.001	<0.01							
30 IN CAB GOR																		
31 BEL CAB GO	06	1330	16600.	6.0	1.8	.7	0.01	0.02	0.2	0.002	<0.01							

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. WHEN CHAMPION WAS NOT DIRECT DISCHARGING AS INDICATED BY 0.0 FLOW, SAMPLES WERE COLLECTED FROM STORAGE PONDS.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON APRIL 4-6, 1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	04	1000													
02 BLACKFOOT	04	1030													
03 IN MILLTWN															
04 BEL MILLTN	04	1200													
05 ABV MSLA															
06 ABV STP	04	1230													
07 STP EFFLNT	04	1300													
08 BEL STP															
09 SHUFFIELDS	04	1330													
10 BITTERROOT	04	1400													
11 HARPER BR	04	1430													
12 CHAMP 001															
12 CHAMP 003	04	1500													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	04	1545													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	04	1730													
22 ABV FLATHD															
23 FLATHEAD R	04	2015													
24 PLAINS															
25 ABV T FALL	05	0845													
26 IN T FALLS															
27 BEL T FALL	05	1130													
28 IN NOXON															
29 BEL NOXON	06	1530													
30 IN CAB GOR															
31 BEL CAB GO	06	1330													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND CO OR[illegible]LOR UNITS). A.S. MEANS AC[illegible] SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON APRIL 17-18, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	17	0930	1765.	9.5	71.2	10.4	<0.01	0.02	0.5	0.053	0.11							
02 BLACKFOOT	17	1030	1270.	9.0	20.0	4.0	<0.01	0.02	0.2	0.013	0.03							
03 IN MILLTWN																		
04 BEL MILLTN	17	1100	2950.	10.5	19.4	2.9	<0.01	0.02	0.2	0.018	0.03							
05 ABV MSLA																		
06 ABV STP	17	1130	2950.	10.5	25.3	3.8	<0.01	0.01	0.2	0.017	0.03							
07 STP EFFLNT	17	1145	13.30	14.0	20.9	17.3	<0.1	9.4	17.	0.49	1.2							
08 BEL STP																		
09 SHUFFIELDS	17	1215	2960.	11.0	30.4	4.0	<0.01	0.05	0.2	0.019	0.04							
10 BITTERROOT	17	1245	2080.	11.0	56.0	9.1	0.01	0.02	0.4	0.022	0.06							
11 HARPER BR	17	1400	5040.	12.0	38.0	4.9	0.01	0.02	0.4	0.024	0.06							
12 CHAMP 001																		
12 CHAMP 003	17	1000	1.60		97.9	91.9	0.1		7.0		1.0							
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	17	1540	5040.	12.0	64.7	9.4	<0.01	0.02	0.4	0.033	0.07							
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	17	1700	6050.	11.0	25.1	3.7	<0.01	0.01	0.2	0.013	0.04							
22 ABV FLATHD																		
23 FLATHEAD R	17	1745	6350.	8.5	3.2	.5	0.01	0.01	0.1	0.002	0.01							
24 PLAINS																		
25 ABV T FALL	17	1830	12400.	10.5	5.6	1.2	<0.01	0.01	0.1	<0.001	0.02							
26 IN T FALLS																		
27 BEL T FALL	18	0845	14874.	10.0	7.2	1.3	<0.01	0.01	0.1	0.001	0.02							
28 IN NOXON																		
29 BEL NOXON	18	1000	13900.	12.0	2.2	.8	<0.01	0.01	0.1	<0.001	0.01							
30 IN CAB GOR																		
31 BEL CAB GO	18	1045	18300.	8.0	2.7	.9	<0.01	<0.01	0.1	<0.001	0.02							

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON APRIL 17-18, 1984

STATION	DAY	TIME	PH FLO	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	17	0930													
02 BLACKFOOT	17	1030													
03 IN MILLTWN															
04 BEL MILLTN	17	1100													
05 ABV MSLA															
06 ABV STP	17	1130													
07 STP EFFLNT	17	1145													
08 BEL STP															
09 SHUFFIELDS	17	1215													
10 BITTERROOT	17	1245													
11 HARPER BR	17	1400													
12 CHAMP 001															
12 CHAMP 003	17	1000	7.7				34.1		1130.	1060.					
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	17	1540													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	17	1700													
22 ABV FLATHD															
23 FLATHEAD R	17	1745													
24 PLAINS															
25 ABV T FALL	17	1830													
26 IN T FALLS															
27 BEL T FALL	18	0845													
28 IN NOXON															
29 BEL NOXON	18	1000													
30 IN CAB GOR															
31 BEL CAB GO	18	1045													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL, PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON MAY 16-17, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	16	1000	7150.	7.0	555.	47.1	0.03	0.04	1.9	0.37	0.51		4.41	0.23	0.40	0.84	<0.005	0.045
02 BLACKFOOT	16	1045	5110.	7.0	138.	12.0	0.02	0.02	0.8	0.062	0.07		0.82	<0.01	<0.005	0.10	<0.005	0.001
03 IN MILLTWN																		
04 BEL MILLTN	16	1130	11300.	7.0	256.	26.5	0.03	0.05	1.3	0.19	0.27		2.54	0.12	0.22	0.49	<0.005	0.020
05 ABV MSLA																		
06 ABV STP	16	1200	11300.	7.0	269.	27.9	0.02	0.03	1.3	0.19	0.25		2.62	0.12	0.24	0.48	<0.005	0.019
07 STP EFFLNT	16	1220	12.06	14.5	20.7	17.0	0.01	13.	18.	3.07	4.00		0.11	0.01	0.05	0.02	<0.005	0.001
08 BEL STP																		
09 SHUFFIELDS	16	1300	11310.	7.0	254.	27.2	0.03	0.03	1.6	0.19	0.26		2.69	0.12	0.22	0.48	<0.005	0.020
10 BITTERROOT	16	1330	10090.	6.0	116.	12.5	0.07	0.02	0.7	0.048	0.09		1.11	<0.01	<0.005	0.07	<0.005	<0.001
11 HARPER BP	16	1440	21400.	7.0	175.	19.7	0.04	0.03	1.0	0.10	0.17		1.68	0.06	0.12	0.28	<0.005	0.01
12 CHAMP 001	16	1600	28.96	13.0	157.	143.	0.01	6.2	21.	2.43	3.97		0.33	<0.01	0.04	0.69	<0.005	0.002
12 CHAMP 003	16	1530	48.12	13.0	125.	111.	<0.01	2.9	11.	0.87	1.98		0.40	<0.01	0.13	0.94	<0.005	0.006
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	16	1700	21480.	8.0	246.	22.8	0.06	0.05	1.2	0.17	0.21		2.36	0.08	0.15	0.32	<0.005	0.010
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	16	1845	23000.	8.0	220.	21.2	0.06	0.02	1.1	0.096	0.16		1.92	0.05	0.08	0.28	<0.005	0.004
22 ABV FLATHD																		
23 FLATHEAD R	16	1845	6300.	9.0	10.2	1.1	0.03	0.01	0.2	0.007	0.02		0.11	<0.01	<0.005	0.01	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	17	0845	34000.	8.0	137.	13.4	0.06	0.02	0.8	0.075	0.12		1.40	0.03	0.06	0.21	<0.005	0.004
26 IN T FALLS																		
27 BEL T FALL	17	1015	33044.	8.5	61.1	6.6	0.07	0.02	0.6	0.031	0.07		0.60	0.01	0.01	0.09	<0.005	0.002
28 IN NOXON																		
29 BEL NOXON	17	1300	40800.	10.0	3.1	0.8	0.03	<0.01	0.1	0.003	0.01		0.05	<0.01	<0.005	0.02	<0.005	<0.001
30 IN CAB GOR																		
31 BEL CAB GO	17	1140	45900.	9.5	3.3	0.8	0.03	0.02	0.2	<0.001	0.01		0.06	<0.01	<0.005	0.02	<0.005	<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON MAY 16-17, 1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	16	1000													
02 BLACKFOOT	16	1045													
03 IN MILLTWN															
04 BEL MILLTN	16	1130													
05 ABV MSLA															
06 ABV STP	16	1200													
07 STP EFFLNT	16	1220													
08 BEL STP															
09 SHUFFIELDS	16	1300													
10 BITTERROOT	16	1330													
11 HARPER BR	16	1440													
12 CHAMP 001	16	1600													
12 CHAMP 003	16	1530													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	16	1700													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	16	1845													
22 ABV FLATHD															
23 FLATHEAD R	16	1845													
24 PLAINS															
25 ABV T FALL	17	0845													
26 IN T FALLS															
27 BEL T FALL	17	1015													
28 IN NOXON															
29 BEL NOXON	17	1300													
30 IN CAB GOR															
31 BEL CAB GO	17	1140													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JUNE 4-5, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	04	1015	4090.	9.5	28.8	3.6	0.02	<0.01	0.4	0.041	0.05		0.31	0.02	0.03	0.06	<0.005	0.006
02 BLACKFOOT	04	1045	4620.	9.5	29.0	2.7	0.02	<0.01	0.3	0.019	0.03		0.19	<0.01	<0.005	0.02	<0.005	<0.001
03 IN MILLTWN																		
04 BEL MILLTN	04	1115	8750.	10.0	30.6	3.3	0.02	<0.01	0.3	0.024	0.04		0.27	<0.01	0.02	0.05	<0.005	0.003
05 ABV MSLA																		
06 ABV STP	04	1145	8750.	10.0	30.0	3.2	0.02	<0.01	0.3	0.024	0.04		0.28	<0.01	0.02	0.04	<0.005	0.003
07 STP EFFLNT	04	1215	12.38	14.0	15.7	12.6	0.03	17.9	18.	4.68	6.10		0.05	0.01	0.09	0.02	<0.005	0.001
08 BEL STP																		
09 SHUFFIELDS	04	1300	8760.	10.0	32.6	3.6	0.02	0.02	0.3	0.036	0.05		0.29	<0.01	0.02	0.05	<0.005	0.003
10 BITTERROOT	04	1320	9840.	9.0	37.2	3.4	0.04	<0.01	0.2	0.021	0.003		0.33	<0.01	<0.005	0.02	<0.005	<0.001
11 HARPER BR	04	1415	18600.	10.0	29.5	3.2	0.04	0.02	0.3	0.034	0.04		0.30	<0.01	0.02	0.04	<0.005	0.002
12 CHAMP 001	04	1500	6.37	16.0	170.	149.	0.01	4.2	19.	2.18	4.20		0.34	<0.01	0.04	0.69	<0.005	0.004
12 CHAMP 003	04	1450	44.55	15.0	146.	128.	0.02	4.5	14.	1.05	3.75		0.34	<0.01	0.04	0.84	<0.005	0.004
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	04	1630	18651.	10.5	55.6	4.3	0.04	0.02	0.3	0.036	0.06		0.39	<0.01	0.02	0.04	<0.005	0.002
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	04	1820	24200.	10.5	48.9	4.0	0.04	0.02	0.3	0.034	0.05		0.36	<0.01	0.01	0.04	<0.005	0.002
22 ABV FLATHD																		
23 FLATHEAD R	04	1900	13300.	13.0	10.0	1.4	<0.01	<0.01	0.2	0.007	0.02		0.05	<0.01	<0.005	0.01	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	04	2000	37500.	11.0	44.6	3.5	0.03	0.01	0.4	0.024	0.04		0.34	<0.01	0.09	0.04	<0.005	0.002
26 IN T FALLS																		
27 BEL T FALL	05	0745	38122.	11.0	41.4	3.6	0.04	0.01	0.3	0.024	0.04		0.28	<0.01	0.01	0.03	<0.005	0.001
28 IN NOXON																		
29 BEL NOXON	05	0900	38000.	11.0	9.9	1.1	0.05	0.02	0.3	0.023	0.03		0.13	<0.01	0.008	0.02	<0.005	0.001
30 IN CAB GOR																		
31 BEL CAB GO	05	1030	45100.	11.0	8.7	1.4	0.05	0.02	0.2	0.016	0.03		0.12	<0.01	0.009	0.02	<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JUNE 4-5, 1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	04	1015													
02 BLACKFOOT	04	1045													
03 IN MILLTWN															
04 BEL MILLTN	04	1115													
05 ABV MSLA															
06 ABV STP	04	1145													
07 STP EFFLNT	04	1215													
08 BEL STP															
09 SHUFFIELDS	04	1300													
10 BITTERROOT	04	1320													
11 HARPER BR	04	1415													
12 CHAMP 001	04	1500													
12 CHAMP 003	04	1450													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	04	1630													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	04	1820													
22 ABV FLATHD															
23 FLATHEAD R	04	1900													
24 PLAINS															
25 ABV T FALL	04	2000													
26 IN T FALLS															
27 BEL T FALL	05	0745													
28 IN NOXON															
29 BEL NOXON	05	0900													
30 IN CAB GOR															
31 BEL CAB GO	05	1030													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JUNE 20-21, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	20	0945	5030.	12.0	34.9	3.5	0.02	0.02	0.3	0.036	0.04	87	0.36	0.02	0.04	0.08	<0.005	0.008
02 BLACKFOOT	20	1020	4180.	12.4	19.8	2.0	0.01	0.02	0.2	0.014	0.02	85	0.14	<0.01	<0.005	0.02	<0.005	<0.001
03 IN MILLTWN																		
04 BEL MILLTN	20	1100	8900.	12.5	28.8	3.1	0.01	0.01	0.2	0.024	0.03	84	0.28	0.02	0.08	0.06	<0.005	0.004
05 ABV MSLA																		
06 ABV STP	20	1130	8900.	12.2	28.0	3.0	0.01	0.03	0.2	0.024	0.03	77	0.28	0.01	0.03	0.06	<0.005	0.004
07 STP EFFLNT	20	1200	12.68	16.0	13.	9.1	0.23	8.2	9.5	1.78	2.75	149	0.07	<0.01	0.07	0.02	<0.005	0.001
08 BEL STP																		
09 SHUFFIELDS	20	1230	8910.	13.0	30.2	3.1	0.02	0.06	0.3	0.027	0.03	80	0.29	0.02	0.07	0.06	<0.005	0.005
10 BITTERROOT	20	1300	11390.	12.0	29.4	2.4	0.02	<0.01	0.2	0.014	0.02	18	0.27	<0.01	0.005	0.01	<0.005	<0.001
11 HARPER BR	20	1515	20300.	14.0	25.6	2.5	0.02	<0.01	0.2	0.020	0.03	59	0.25	0.01	0.02	0.04	<0.005	0.003
12 CHAMP 001																		
12 CHAMP 003	20	1445	15.59	20.0	83.1	68.8	0.01	3.37	16.4	0.92	3.81	203	0.36	<0.01	0.04	0.79	<0.005	0.004
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	20	1645	20320.	14.0	44.3	3.9	0.02	0.04	0.3	0.024	0.03	50	0.31	0.01	0.04	0.04	<0.005	0.002
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	20	1830	24400.	13.5	47.0	2.9	0.02	0.02	0.2	0.024	0.03	50	0.32	0.01	0.01	0.04	<0.005	0.002
22 ABV FLATHD																		
23 FLATHEAD R	20	1915	18500.	15.5	7.8	0.7	0.02	0.09	0.2	0.008	0.01	83	0.06	<0.01	0.01	0.01	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	20	2000	42900.	14.0	37.6	2.6	0.02	<0.01	0.2	0.017	0.03	65	0.24	<0.01	0.06	0.03	<0.005	0.001
26 IN T FALLS																		
27 BEL T FALL	21	0845	42376.	14.0	40.3	2.8	0.02	0.02	0.3	0.020	0.03	64	0.26	<0.01	0.03	0.03	<0.005	0.001
28 IN NOXON																		
29 BEL NOXON	21	1000	45600.	14.0	7.5	0.7	0.02	<0.01	0.2	0.008	0.01	66	0.08	<0.01	<0.005	0.02	<0.005	0.001
30 IN CAB GOR																		
31 BEL CAB GO	21	1100	51800.	14.0	7.1	0.7	0.02	0.09	0.3	0.011	0.01	64	0.06	<0.01	<0.005	0.01	<0.005	<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JUNE 20-21, 1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	20	0945													
02 BLACKFOOT	20	1020													
03 IN MILLTWN															
04 BEL MILLTN	20	1100													
05 ABV MSLA															
06 ABV STP	20	1130													
07 STP EFFLNT	20	1200													
08 BEL STP															
09 SHUFFIELDS	20	1230													
10 BITTERROOT	20	1300													
11 HARPER BR	20	1515													
12 CHAMP 001															
12 CHAMP 003	20	1445													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	20	1645													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	20	1830													
22 ABV FLATHD															
23 FLATHEAD R	20	1915													
24 PLAINS															
25 ABV T FALL	20	2000													
26 IN T FALLS															
27 BEL T FALL	21	0845													
28 IN NOXON															
29 BEL NOXON	21	1000													
30 IN CAB GOR															
31 BEL CAB GO	21	1100													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JULY 10-11, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	10	0945	1911.	14.0	8.2	1.9	0.01	<0.01	0.5	0.019	0.03		0.12	<0.01	0.02	0.03	<0.005	0.007
02 BLACKFOOT	10	1015	1940.	14.5	5.6	1.1	<0.01	<0.01	0.2	0.007	0.01		0.06	<0.01	0.005	0.009	<0.005	0.001
03 IN MILLTWN																		
04 BEL MILLTN	10	1050	3840.	14.5	11.8	1.9	<0.01	<0.01	0.3	0.016	0.02		0.15	<0.01	0.01	0.03	<0.005	0.004
05 ABV MSLA																		
06 ABV STP	10	1130	3840.	15.0	11.1	1.8	<0.01	<0.01	0.3	0.015	0.02		0.23	<0.01	0.01	0.03	0.005	0.005
07 STP EFFLNT	10	1200	12.38	16.5	11.8	10.5	1.84	3.33	8.5	4.11	5.94		0.07	0.01	0.07	0.008	<0.005	0.001
08 BEL STP																		
09 SHUFFIELDS	10	1220	3850.	15.0	11.7	2.0	0.01	<0.01	0.5	0.031	0.04		0.17	<0.01	0.02	0.03	<0.005	0.005
10 BITTERROOT	10	1250	3920.	16.5	7.8	1.5	0.04	<0.01	0.3	0.012	0.02		0.15	<0.01	<0.005	0.01	<0.005	<0.001
11 HARPER BR	10	1600	7770.	18.0	9.0	1.4	0.04	<0.01	0.3	0.017	0.03		0.13	<0.01	0.008	0.02	0.005	0.003
12 CHAMP 001																		
12 CHAMP 003	10	1515	1.26	21.0	64.5	58.8	<0.01	2.59	15.8	0.64	3.04		0.39	<0.01	0.04	8.0	0.008	0.006
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	10	1645	7770.	18.2	13.6	2.3	0.03	<0.01	0.3	0.019	0.03		0.16	<0.01	0.005	0.03	<0.005	0.002
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	10	1830	9710.	18.0	5.8	1.1	0.02	<0.01	0.5	0.014	0.02		0.08	<0.01	<0.005	0.01	<0.005	0.002
22 ABV FLATHD																		
23 FLATHEAD R	10	1915	12590.	20.5	3.6	0.9	<0.01	<0.01	0.2	0.007	0.01		0.05	<0.01	<0.005	0.008	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	10	2015	22300.	18.5	4.9	0.9	0.01	<0.01	0.2	0.006	0.01		0.05	<0.01	<0.005	0.01	<0.005	0.001
26 IN T FALLS																		
27 BEL T FALL	11	0900	23789.	17.5	8.9	1.4	0.01	<0.01	0.3	0.007	0.01		0.09	<0.01	<0.005	0.01	<0.005	0.001
28 IN NOXON																		
29 BEL NOXON	11	1030	24500.	17.5	2.9	0.7	0.02	<0.01	0.2	0.007	0.02		0.07	<0.01	<0.005	0.02	<0.005	0.001
30 IN CAB GOR																		
31 BEL CAB GO	11	1130	25900.	17.5	2.6	0.7	0.01	<0.01	0.4	0.006	0.01		0.04	<0.01	<0.005	0.01	<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JULY 10-11, 1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	10	0945													
02 BLACKFOOT	10	1015													
03 IN MILLTWN															
04 BEL MILLTN	10	1050													
05 ABV MSLA															
06 ABV STP	10	1130													
07 STP EFFLNT	10	1200													
08 BEL STP															
09 SHUFFIELDS	10	1220													
10 BITTERROOT	10	1250													
11 HARPER BR	10	1600													
12 CHAMP 001															
12 CHAMP 003	10	1515													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	10	1645													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	10	1830													
22 ABV FLATHD															
23 FLATHEAD R	10	1915													
24 PLAINS															
25 ABV T FALL	10	2015													
26 IN T FALLS															
27 BEL T FALL	11	0900													
28 IN NOXON															
29 BEL NOXON	11	1030													
30 IN CAB GOR															
31 BEL CAB GO	11	1130													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JULY 16-17, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	16	1000	1476.	15.7	6.9	1.5	0.01	<0.01	0.2	0.017	0.03		0.08	<0.01	0.01	0.02	0.005	0.006
02 BLACKFOOT	16	1045	1390.	16.5	4.2	1.1	<0.01	<0.01	0.1	0.004	0.01		0.04	<0.01	<0.005	0.009	<0.005	0.001
03 IN MILLTWN																		
04 BEL MILLTN	16	1130	2860.	16.5	79.8	9.0	<0.01	0.03	0.3	0.048	0.05		0.70	0.05	0.10	0.18	<0.005	0.009
05 ABV MSLA																		
06 ABV STP	16	1200	2860.	17.0	38.8	5.1	<0.01	<0.01	0.3	0.028	0.04		0.31	0.02	0.05	0.08	<0.005	0.006
07 STP EFFLNT	16	1230	13.15	17.5	12.2	10.6	5.00	6.70	9.2	4.13	5.75		0.18	0.02	0.04	0.03	<0.005	0.001
08 BEL STP																		
09 SHUFFIELDS	16	1315	2870.	17.4	35.2	4.9	0.03	0.03	0.3	0.046	0.05		0.38	0.03	0.05	0.08	<0.005	0.006
10 BITTERROOT	16	1400	2605.	19.0	5.3	1.0	0.02	<0.01	0.1	0.007	0.01		0.06	<0.01	0.01	0.006	<0.005	<0.001
11 HARPER BR	16	1630	5480.	19.6	13.4	2.2	0.03	<0.01	0.2	0.014	0.03		0.14	0.01	0.02	0.03	<0.005	0.004
12 CHAMP 001																		
12 CHAMP 003	16	1545	17.15	22.5	55.1	48.9	0.01	2.3	7.1	0.53	2.83		0.34	<0.01	0.04	0.68	0.005	0.004
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	16	1715	5500.	20.4	15.9	2.4	0.02	<0.01	0.2	0.017	0.03		0.16	<0.01	0.02	0.04	<0.005	0.003
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	16	1845	6900.	20.5	5.2	1.2	<0.01	<0.01	0.1	0.006	0.02		0.05	<0.01	0.006	0.01	<0.005	0.003
22 ABV FLATHD																		
23 FLATHEAD R	16	1950	10200.	22.8	1.9	0.5	<0.01	<0.01	0.1	0.004	0.01		0.04	<0.01	<0.005	0.006	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	16	2040	17100.	21.0	2.6	0.6	<0.01	<0.01	0.1	<0.001	0.01		0.03	<0.01	0.006	0.009	<0.005	0.001
26 IN T FALLS																		
27 BEL T FALL	17	0900	18175.	20.6	4.2	0.8	<0.01	<0.01	0.1	<0.001	<0.01		0.05	<0.01	<0.005	0.01	<0.005	0.001
28 IN NOXON																		
29 BEL NOXON	17	1000	14500.	17.7	2.0	0.5	0.02	<0.01	0.1	<0.001	0.01		0.03	<0.01	0.005	0.02	<0.005	0.001
30 IN CAB GOR																		
31 BEL CAB GO	17	1100	17100.	18.0	2.1	0.6	<0.01	<0.01	0.1	<0.001	0.01		0.03	<0.01	<0.005	0.01	<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JULY 16-17, 1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	16	1000													
02 BLACKFOOT	16	1045													
03 IN MILLTWN															
04 BEL MILLTN	16	1130													
05 ABV MSLA															
06 ABV STP	16	1200													
07 STP EFFLNT	16	1230													
08 BEL STP															
09 SHUFFIELDS	16	1315													
10 BITTERROOT	16	1400													
11 HARPER BR	16	1630													
12 CHAMP 001															
12 CHAMP 003	16	1545													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	16	1715													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	16	1845													
22 ABV FLATHD															
23 FLATHEAD R	16	1950													
24 PLAINS															
25 ABV T FALL	16	2040													
26 IN T FALLS															
27 BEL T FALL	17	0900													
28 IN NOXON															
29 BEL NOXON	17	1000													
30 IN CAB GOR															
31 BEL CAB GO	17	1100													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JUL 30-AUG 2,1984

	STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01	TURAH	30	1030	1235.	16.0	12.2	2.4	0.02	0.03	0.4	0.017	0.03	139	0.15	0.01	0.02	0.05	<0.005	0.008
02	BLACKFOOT	30	1145	1080.	17.0	5.0	1.2	0.02	0.03	0.3	0.003	<0.01	122	0.09	<0.01	<0.005	0.01	<0.005	<0.001
03	IN MILLTWN	30	1300		17.0	4.0	1.0	0.02	<0.01	0.4	0.013	0.02	139	0.07	0.01	0.01	0.05	<0.005	0.008
04	BEL MILLTN	30	1230	2320.	17.0	6.6	1.2	0.02	<0.01	0.4	0.009	0.01	131	0.08	0.01	0.03	0.03	<0.005	0.005
05	ABV MSLA	30	1420	2320.	18.0	9.2	1.4	0.01	<0.01	0.5	0.009	0.01	132	0.11	<0.01	0.06	0.04	<0.005	0.005
06	ABV STP	30	1535	2320.	19.0	8.0	1.3	0.01	<0.01	0.6	0.008	0.01	130	0.09	<0.01	0.01	0.03	<0.005	0.005
07	STP EFFLNT	30	1535	11.14	18.0	23.0	22.5	3.68	9.1	20.2	6.65	8.00	161	0.13	0.03	0.09	0.03	<0.005	0.002
08	BEL STP	30	1550	2330.	19.0	9.8	3.0	0.43	1.08	2.2	0.77	0.87	131	0.08	0.01	0.02	0.03	<0.005	0.006
09	SHUFFIELDS	30	1655	2330.	19.0	8.2	1.5	0.03	0.04	0.6	0.047	0.05	130	0.09	<0.01	0.01	0.03	<0.005	0.005
10	BITTERROOT	30	1745	1730.	20.0	3.5	1.0	0.06	0.03	0.6	0.012	0.01	53	0.09	<0.01	<0.005	0.01	<0.005	<0.001
11	HARPER BR	30	2130	4060.	19.5	11.2	3.4	0.06	0.02	0.7	0.023	0.02	102	0.10	<0.01	0.007	0.03	<0.005	0.003
12	CHAMP 001																		
12	CHAMP 003	30	2230	1.06	21.0	33.1	31.8	<0.01	2.8	16.0	1.10	3.20	217	0.53	<0.01	0.04	1.02	<0.005	0.006
13	MARCURE	30	2330	4060.	19.3	10.8	2.4	0.05	0.13	0.5	0.028	0.03	102	0.12	<0.01	0.007	0.05	<0.005	0.003
14	FRENCHTOWN	31	1650		21.0	5.5	1.2	0.03	<0.01	4.3	0.016	0.02	104	0.08	<0.01	<0.005	0.03	<0.005	0.003
15	HUSON	31	0400	3980.	18.5	12.4	2.1	0.05	0.08	0.4	0.024	0.03	106	0.07	<0.01	0.006	0.03	<0.005	0.003
16	9-MILE	31	0710	3980.	18.0	13.6	2.3	0.04	0.01	0.5	0.022	0.03	105	0.13	<0.01	0.007	0.05	<0.005	0.003
17	ABV ALBERT	31	0900		18.2	8.6	1.2	0.04	<0.01	0.5	0.019	0.03	106	0.09	<0.01	0.005	0.03	<0.005	0.003
18	TARKIO	31	1845		19.6	6.1	1.6	0.02	<0.01	0.5	0.015	0.02	103	0.07	<0.01	<0.005	0.02	<0.005	0.003
19	LOZEAU	31	2230		19.2	5.8	1.2	0.02	<0.01	0.4	0.014	0.02	103	0.07	<0.01	0.02	0.02	0.005	0.003
20	SUPERIOR	01	0330		18.4	7.2	1.6	0.02	<0.01	0.4	0.012	0.02	103	0.06	<0.01	0.01	0.02	<0.005	0.003
21	BEL ST REG	01	1320	4630.	18.5	4.1	1.4	0.01	0.01	0.1	0.010	0.02	96	0.03	<0.01	<0.005	0.02	<0.005	0.002
22	ABV FLATHD	01	2200	4630.	18.3	4.3	1.4	0.02	0.13	0.1	0.008	0.01	100	0.03	<0.01	<0.005	0.02	<0.005	0.002
23	FLATHEAD R	01	1430	7370.	22.2	1.5	0.8	0.01	<0.01	0.1	0.004	<0.01	82	0.04	<0.01	<0.005	0.009	<0.005	<0.001
24	PLAINS	01	1600	12000.	21.4	3.6	1.0	0.02	<0.01	0.1	0.003	0.04	90	0.03	0.01	<0.005	<0.005	<0.005	0.001
25	ABV T FALL	01	1730	12000.	22.0	1.5	0.8	0.02	<0.01	0.1	0.003	0.01	88	0.02	<0.01	<0.005	<0.005	<0.005	0.001
26	IN T FALLS	01	2000		21.4	5.8	1.2	0.01	<0.01	0.1	0.007	0.02	88	0.05	<0.01	<0.005	0.009	<0.005	0.001
27	BEL T FALL	02	0900	12533.	21.0	4.4	1.2	0.01	0.03	0.1	0.007	0.01	90	0.03	<0.01	<0.005	0.006	<0.005	0.002
28	IN NOXON	02	1045		22.3	1.4	0.9	0.01	<0.01	0.1	0.004	0.01	88	0.02	<0.01	<0.005	0.005	<0.005	0.001
29	BEL NOXON	02	1145	17500.	20.0	1.2	0.7	0.02	<0.01	0.1	0.004	<0.01	84	0.01	<0.01	0.005	0.006	<0.005	0.002
30	IN CAB GOR	02	1300		20.0	1.7	1.0	0.02	<0.01	0.2	0.003	<0.01	82	0.02	<0.01	0.006	0.02	<0.005	0.002
31	BEL CAB GO	02	1400	18800.	20.0	1.6	1.0	0.01	<0.01	0.1	0.003	<0.01	81	0.02	<0.01	<0.005	0.02	<0.005	0.002

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JUL 30-AUG 2,1984

	STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01	TURAH	30	1030	8.30	8.36	322	9.10	<2.0	6.2							
02	BLACKFOOT	30	1145	8.60	8.48	254	9.30	<2.0	8.8							
03	IN MILLTWN	30	1300	8.15	8.20	319	8.30	<2.0	6.1							
04	BEL MILLTN	30	1230	8.35	8.37	287	8.95	<2.0	<5.0							
05	ABV MSLA	30	1420	8.55	8.48	289	9.40	<2.0	<5.0							
06	ABV STP	30	1535	8.55	8.53	280	9.40	<2.0	<5.0							
07	STP EFFLNT	30	1535	7.30	6.96	695	5.05	38.1	115.							
08	BEL STP	30	1550	8.20	7.39	325	9.10	8.0	13.5							
09	SHUFFIELDS	30	1655	8.55	8.37	306	9.40	<2.0	<5.0							
10	BITTERROOT	30	1745	8.40	8.04	130	9.55	<2.0	8.5							
11	HARPER BR	30	2130	8.30	8.32	229	8.90	<2.0	<5.0							
12	CHAMP 001															
12	CHAMP 003	30	2230	8.35	7.81	3154		38.9	567.	1480.	1510.					
13	MARCURE	30	2330	8.30	8.29	246	8.10	<2.0	<5.0	16.5	14.7					
14	FRENCHTOWN	31	1650	8.40	8.44	232	10.20	<2.0	<5.0							
15	HUSON	31	0400	8.20	8.24	240	7.75	<2.0	<5.0	12.9	11.8					
16	9-MILE	31	0710	8.10	8.18	244	7.55	<2.0	<5.0							
17	ABV ALBERT	31	0900	8.25	8.26	248	8.10	<2.0	7.4							
18	TARKIO	31	1845	8.55	8.52	226	9.15	<2.0	5.3							
19	LOZEAU	31	2230	8.50	8.49	225	8.40	<2.0	<5.0							
20	SUPERIOR	01	0330	8.20	8.37	220	7.85	<2.0	<5.0							
21	BEL ST REG	01	1320	8.45	8.42	224	9.05	<2.0	5.0							
22	ABV FLATHD	01	2200	8.45	8.43	220	8.40	<2.0	<5.0							
23	FLATHEAD R	01	1430	8.75	8.66	164	10.40	<2.0	<5.0							
24	PLAINS	01	1600	8.45	8.48	188	8.35	<2.0	<5.0							
25	ABV T FALL	01	1730	8.55	8.64	187	9.30	<2.0	<5.0							
26	IN T FALLS	01	2000	8.35	8.39	190	7.80	<2.0	<5.0							
27	BEL T FALL	02	0900	8.40	8.42	187	8.30	<2.0	<5.0							
28	IN NOXON	02	1045	8.50	8.48	186	8.55	<2.0	<5.0							
29	BEL NOXON	02	1145	8.20	8.33	175	7.50	<2.0	<5.0							
30	IN CAB GOR	02	1300	8.20	8.43	170	8.05	<2.0	<5.0							
31	BEL CAB GO	02	1400	8.25	8.48	171	8.20	<2.0	<5.0							

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS) A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON AUG. 14-15, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	14	1000	893.	15.0	9.5	1.2	0.02	<0.01	0.3	0.015	0.01		0.11	<0.01	0.01	0.04	<0.005	0.008
02 BLACKFOOT	14	1040	846.	15.5	3.8	1.2	0.02	<0.01	0.2	<0.001	<0.01		0.03	<0.01	0.01	0.01	<0.005	0.001
03 IN MILLTWN																		
04 BEL MILLTN	14	1115	1760.	17.0	5.7	1.2	0.02	0.01	0.3	0.012	0.01		0.07	<0.01	0.008	0.04	0.005	0.005
05 ABV MSLA																		
06 ABV STP	14	1245	1760.	18.4	6.1	1.2	0.01	0.01	0.3	0.005	0.01		0.06	<0.01	0.007	0.03	<0.005	0.004
07 STP EFFLNT	14	1315	12.07	18.4	21.7	17.4	1.02	13.2	17.3	7.22	9.12		0.11	0.03	0.08	0.03	<0.005	0.001
08 BEL STP																		
09 SHUFFIELDS	14	1345	1770.	18.6	6.0	1.3	0.03	0.05	0.4	0.046	0.06		0.06	<0.01	0.008	0.03	<0.005	0.005
10 BITTERROOT	14	1415	1200.	18.7	2.9	0.9	0.06	0.01	0.2	0.014	0.01		0.09	<0.01	<0.005	0.01	<0.005	<0.001
11 HARPER BR	14	1445	2970.	18.5	5.5	1.4	0.06	0.01	0.3	0.014	0.01		0.07	<0.01	0.009	0.02	<0.005	0.003
12 CHAMP 001																		
12 CHAMP 003	14	1545	1.40	19.9	45.5	41.4	0.02	3.03	34.	0.44	3.10		0.76	<0.01	0.03	0.87	0.005	0.009
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	14	1615	2970.	19.0	6.0	1.3	0.05	0.02	0.3	0.020	0.03		0.08	<0.01	0.005	0.03	<0.005	0.003
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	14	1830	3680.	19.5	4.4	1.2	0.02	0.02	0.4	0.006	0.01		0.04	<0.01	<0.005	0.02	<0.005	0.003
22 ABV FLATHD																		
23 FLATHEAD R	14	1930	5390.	23.0	1.7	0.6	0.01	<0.01	0.5	<0.001	<0.01		0.02	<0.01	<0.005	0.008	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	14	2030	9070.	22.0	2.7	0.8	0.01	0.02	0.4	<0.001	<0.01		0.03	<0.01	<0.005	0.01	0.006	<0.001
26 IN T FALLS																		
27 BEL T FALL	15	0500	9031.	19.8	2.8	0.8	<0.01	<0.01	0.6	0.009	<0.01		0.04	<0.01	<0.005	0.02	<0.005	0.001
28 IN NOXON																		
29 BEL NOXON	15	0615	10600.	19.2	1.0	0.5	0.05	0.01	0.4	0.007	<0.01		0.02	<0.01	0.02	0.03	<0.005	0.001
30 IN CAB GOR																		
31 BEL CAB GO	15	0730	12200.	19.2	1.0	0.6	0.03	<0.01	0.4	<0.001	<0.01		0.02	<0.01	0.009	0.02	<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON AUG. 14-15, 1984

	STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01	TURAH	14	1000													
02	BLACKFOOT	14	1040													
03	IN MILLTWN															
04	BEL MILLTN	14	1115													
05	ABV MSLA															
06	ABV STP	14	1245													
07	STP EFFLNT	14	1315													
08	BEL STP															
09	SHUFFIELDS	14	1345													
10	BITTERROOT	14	1415													
11	HARPER BR	14	1445													
12	CHAMP 001															
12	CHAMP 003	14	1545													
13	MARCURE															
14	FRENCHTOWN															
15	HUSON	14	1615													
16	9-MILE															
17	ABV ALBERT															
18	TARKIO															
19	LOZEAU															
20	SUPERIOR															
21	BEL ST REG	14	1830													
22	ABV FLATHD															
23	FLATHEAD R	14	1930													
24	PLAINS															
25	ABV T FALL	14	2030													
26	IN T FALLS															
27	BEL T FALL	15	0500				8.40									
28	IN NOXON															
29	BEL NOXON	15	0615				6.45									
30	IN CAB GOR															
31	BEL CAB GO	15	0730				7.85									

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON SEPT 13-14, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	13	0930	987.	10.2	8.0	1.6	0.02	<0.01	0.2	0.014	0.01		0.05	<0.01	0.006	0.02	<0.005	0.009
02 BLACKFOOT	13	1040	683.	9.4	3.0	1.0	<0.01	0.02	0.1	0.008	<0.01		0.03	<0.01	<0.005	<0.005	<0.005	0.001
03 IN MILLTWN																		
04 BEL MILLTN	13	1110	1710.	11.4	5.2	1.3	<0.01	<0.01	0.1	0.012	<0.01		0.06	<0.01	<0.005	0.03	<0.005	0.005
05 ABV MSLA																		
06 ABV STP	13	1245	1710.	12.1	5.6	1.2	<0.01	<0.01	0.1	0.008	<0.01		0.06	<0.01	0.16	0.03	<0.005	0.005
07 STP EFFLNT	13	1300	10.52	18.0	7.3	7.1	<0.01	8.42	9.8	4.04	4.80		0.09	<0.01	0.08	0.03	<0.005	<0.001
08 BEL STP																		
09 SHUFFIELDS	13		1720.	12.8	5.3	1.3	0.01	0.03	0.2	0.027	0.03		0.05	<0.01	0.02	0.02	<0.005	0.006
10 BITTERROOT	13	1210	1430.	12.6	2.8	0.9	0.03	0.01	0.1	0.007	0.01		0.08	<0.01	<0.005	<0.005	<0.005	<0.001
11 HARPER BR	13	1445	3150.	13.0	5.2	1.3	0.03	<0.01	0.2	0.010	0.01		0.04	<0.01	<0.005	0.006	<0.005	0.003
12 CHAMP 001																		
12 CHAMP 003	13		4.46	15.0	87.7	79.6	<0.01	3.63	14.	1.62	3.75		0.49	<0.01	0.03	0.92	<0.005	0.007
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	13	1645	3155.	13.6	5.7	1.3	0.03	<0.01	0.3	0.015	0.02		0.06	<0.01	0.01	0.02	<0.005	0.003
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	13	1815	3810.	13.9	5.5	1.5	<0.01	<0.01	0.3	0.011	0.01		0.06	<0.01	0.005	0.01	<0.005	0.003
22 ABV FLATHD																		
23 FLATHEAD R	13	1910	7390.	15.2	1.3	0.7	<0.01	<0.01	0.1	<0.001	<0.01		0.03	<0.01	<0.005	<0.005	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	13	2000	11200.	15.0	3.0	1.0	<0.01	<0.01	0.2	0.002	<0.01		0.03	<0.01	<0.005	<0.005	<0.005	<0.001
26 IN T FALLS																		
27 BEL T FALL	14	0830	12701.	14.0	3.7	1.0	<0.01	<0.01	0.1	0.002	<0.01		0.03	<0.01	<0.005	0.005	<0.005	<0.001
28 IN NOXON																		
29 BEL NOXON	14	0930	8900.	17.3	3.0	1.0	<0.01	<0.01	0.2	0.005	<0.01		0.04	<0.01	<0.005	0.02	<0.005	<0.001
30 IN CAB GOR																		
31 BEL CAB GO	14	1030	8810.	17.2	1.5	0.7	0.02	0.02	0.1	0.006	<0.01		0.02	<0.01	<0.005	0.009	<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON SEPT 13-14, 1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	13	0930													
02 BLACKFOOT	13	1040													
03 IN MILLTWN															
04 BEL MILLTN	13	1110													
05 ABV MSLA															
06 ABV STP	13	1245													
07 STP EFFLNT	13	1300													
08 BEL STP															
09 SHUFFIELDS	13														
10 BITTERROOT	13	1210													
11 HARPER BR	13	1445													
12 CHAMP 001															
12 CHAMP 003	13														
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	13	1645													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	13	1815													
22 ABV FLATHD															
23 FLATHEAD R	13	1910													
24 PLAINS															
25 ABV T FALL	13	2000													
26 IN T FALLS															
27 BEL T FALL	14	0830													
28 IN NOXON															
29 BEL NOXON	14	0930													
30 IN CAB GOR															
31 BEL CAB GO	14	1030													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON OCT 15-16, 1984

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	15	1015	1092.	5.0	6.3	1.4	0.01	<0.01	0.1	0.012	0.02		0.09	<0.01	0.01	0.03	<0.005	0.006
02 BLACKFOOT	15	1100	667.	4.6	1.9	1.4	0.01	<0.01	0.1	<0.003	<0.01		0.04	<0.01	0.02	<0.005	<0.005	<0.001
03 IN MILLTWN																		
04 BEL MILLTN	15	1130	1820.	5.7	3.6	1.0	0.01	<0.01	0.1	0.008	0.02		0.06	<0.01	0.01	0.02	<0.005	0.004
05 ABV MSLA																		
06 ABV STP	15	1215	1820.	5.9	3.9	0.9	0.01	<0.01	0.1	0.008	0.01		0.06	<0.01	0.007	0.02	<0.005	0.004
07 STP EFFLNT	15	1300	11.37	11.0	19.7	17.9	4.43	8.64	11.8	5.76	6.92		0.08	0.02	0.05	<0.005	<0.005	0.002
08 BEL STP																		
09 SHUFFIELDS	15	1330	1830.	6.3	4.2	1.0	0.04	0.03	0.1	0.039	0.05		0.06	<0.01	0.006	0.01	<0.005	0.004
10 BITTERROOT	15	1430	1430.	7.2	1.4	0.6	0.04	<0.01	0.1	0.007	0.02		0.07	<0.01	<0.005	<0.005	<0.005	<0.001
11 HARPER BR	15	1515	3260.	7.2	3.1	0.9	0.04	<0.01	0.1	0.012	0.03		0.06	<0.01	0.007	0.009	<0.005	0.003
12 CHAMP 001																		
12 CHAMP 003	15	1600	5.57	9.0	84.	84.	0.02	3.82	12.7	2.62	4.07		0.45	<0.01	0.03	0.85	<0.005	0.005
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	15	1645	3265.	7.2	3.6	1.2	0.03	<0.01	0.1	0.018	0.03		0.07	<0.01	0.02	0.02	<0.005	0.002
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	15	1815	3820.	7.6	3.2	1.1	<0.01	<0.01	0.1	0.012	0.02		0.05	<0.01	0.008	0.008	<0.005	0.002
22 ABV FLATHD																		
23 FLATHEAD R	15	1915	11680.	9.8	0.8	0.6	0.01	<0.01	0.1	<0.003	<0.01		0.02	<0.01	<0.005	<0.005	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	16	0900	15000.	8.0	2.1	0.7	0.01	<0.01	0.1	<0.003	<0.01		0.04	<0.01	0.006	0.002	<0.005	<0.001
26 IN T FALLS																		
27 BEL T FALL	16	1000	15875.	8.5	2.1	0.8	0.01	<0.01	0.1	<0.003	<0.01		0.04	<0.01	0.006	<0.005	<0.005	<0.001
28 IN NOXON																		
29 BEL NOXON	16	1115	14300.	11.1	1.1	0.5	0.01	0.01	0.1	<0.003	<0.01		0.03	<0.01	<0.005	<0.005	<0.005	<0.001
30 IN CAB GOR																		
31 BEL CAB GO	16	1200	16300.	11.1	1.2	0.6	0.02	<0.01	0.1	<0.003	<0.01		0.03	<0.01	0.008	0.006	<0.005	<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON OCT 15-16, 1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	15	1015													
02 BLACKFOOT	15	1100													
03 IN MILLTWN															
04 BEL MILLTN	15	1130													
05 ABV MSLA															
06 ABV STP	15	1215													
07 STP EFFLNT	15	1300													
08 BEL STP															
09 SHUFFIELDS	15	1330													
10 BITTERROOT	15	1430													
11 HARPER BR	15	1515													
12 CHAMP 001															
12 CHAMP 003	15	1600													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	15	1645													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	15	1815													
22 ABV FLATHD															
23 FLATHEAD R	15	1915													
24 PLAINS															
25 ABV T FALL	16	0900													
26 IN T FALLS															
27 BEL T FALL	16	1000													
28 IN NOXON															
29 BEL NOXON	16	1115													
30 IN CAB GOR															
31 BEL CAB GO	16	1200													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON OCT 29-NOV 1,1984

	STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01	TURAH	29	1030	1079.	4.0	5.5	2.0	0.01	<0.01	0.1	0.010	0.01	185	0.07	<0.01	0.008	0.03	<0.005	0.006
02	BLACKFOOT	29	1140	700.	3.0	1.7	1.3	0.01	0.01	0.1	0.003	<0.01	143	0.04	<0.01	0.02	<0.005	<0.005	0.001
03	IN MILLTWN	29	1220		4.0	3.2	1.4	0.01	0.02	0.1	0.009	0.01	184	0.06	<0.01	0.01	0.04	<0.005	0.006
04	BEL MILLTN	29	1320	1840.	4.0	3.1	1.5	0.01	<0.01	0.1	0.007	0.01	165	0.05	<0.01	<0.005	0.02	<0.005	0.004
05	ABV MSLA	29	1510	1840.	4.0	3.4	1.6	0.01	<0.01	0.1	0.006	<0.01	168	0.05	<0.01	<0.005	0.02	<0.005	0.004
06	ABV STP	29	1700	1840.	4.0	3.2	1.5	0.01	<0.01	0.1	0.006	0.01	164	0.04	<0.01	<0.005	0.01	<0.005	0.004
07	STP EFFLNT	29	1710	10.75	16.5	41.5	42.3	0.02	17.9	24.5	8.30	9.93	174	0.10	0.03	0.08	0.009	<0.005	0.001
08	BEL STP	29	1720	1850.	6.0	7.1	4.5	0.03	2.12	3.2	1.07	1.25	166	0.05	<0.01	0.01	0.02	<0.005	0.004
09	SHUFFIELDS	29	1800	1850.	4.0	2.9	1.0	0.01	0.09	0.2	0.052	0.05	165	0.04	<0.01	<0.005	0.01	<0.005	0.004
10	BITTERROOT	29	1845	1340.	6.0	1.1	1.4	0.04	0.01	0.1	0.005	<0.01	64	0.04	<0.01	<0.005	<0.005	<0.005	<0.001
11	HARPER BR	29	2030	3190.	5.0	2.9	1.7	0.05	0.03	0.1	0.02	0.02	129	0.04	<0.01	<0.005	0.007	<0.005	0.002
12	CHAMP 001																		
12	CHAMP 003	29	2345	6.24	5.5	68.2	74.2	0.01	4.63	13.3	2.67	3.81	181	0.38	<0.01	0.02	0.81	<0.005	0.002
13	MARCURE	30	0015	3170.	5.0	2.9	0.9	0.04	0.03	0.1	0.033	0.03	130	0.06	<0.01	<0.005	0.06	<0.005	0.003
14	FRENCHTOWN	30	0145	3170.	5.0	3.5	1.0	0.04	0.02	0.1	0.027	0.02	131	0.04	<0.01	<0.005	0.02	<0.005	0.002
15	HUSON	30	0315	3170.	4.0	3.5	0.4	0.03	<0.01	0.1	0.012	0.02	129	0.04	<0.01	<0.005	0.02	<0.005	0.002
16	9-MILE	30	0700		4.5	3.3	1.7	0.03	<0.01	0.1	0.018	0.01	129	0.04	<0.01	<0.005	0.02	<0.005	0.002
17	ABV ALBERT	30	0900		4.5	2.5	1.4	0.03	0.07	0.1	0.016	0.01	125	0.04	<0.01	<0.005	0.01	<0.005	0.002
18	TARKIO	30	2100		5.0	3.0	1.6	0.02	0.01	0.1	0.016	0.02	123	0.03	<0.01	<0.005	0.01	<0.005	0.002
19	LOZEAU	30	2320		5.0	2.5	1.5	0.02	0.01	0.1	0.012	0.01	124	0.03	<0.01	<0.005	0.005	<0.005	0.002
20	SUPERIOR	31	0700		4.0	2.7	1.5	0.02	0.01	0.1	0.012	0.02	123	0.03	<0.01	<0.005	0.005	<0.005	0.002
21	BEL ST REG	31	1100	3770.	4.0	1.8	0.6	0.01	0.02	0.1	0.010	0.05	120	0.03	<0.01	<0.005	<0.005	<0.005	0.002
22	ABV FLATHD	31	2245	3770.	4.0	1.8	0.6	0.01	0.01	0.1	0.005	0.02	115	0.03	<0.01	<0.005	<0.005	<0.005	0.002
23	FLATHEAD R	01	1245	7730.	5.0			0.03	0.01	0.1	0.003	<0.01	89	0.04	<0.01	<0.005	<0.005	<0.005	<0.001
24	PLAINS	01	0001	11500.	4.5	1.9	1.3	0.02	0.01	0.1	<0.003	0.01	97	0.06	<0.01	<0.005	<0.005	<0.005	0.001
25	ABV T FALL	31	1500	11500.	5.0	1.3	0.4	0.02	<0.01	0.1	<0.003	<0.01	98	0.02	<0.01	<0.005	<0.005	<0.005	0.001
26	IN T FALLS	31	1630		5.5	1.0	0.4	0.01	0.01	0.1	<0.003	<0.01	121	0.02	<0.01	<0.005	<0.005	<0.005	0.001
27	BEL T FALL	01	0915	11846.	4.0	1.0	0.4	0.01	0.01	0.1	<0.003	<0.01	98	0.02	<0.01	<0.005	<0.005	<0.005	0.001
28	IN NOXON	01	1145		6.5	1.4	1.0	0.01	0.02	0.1	<0.003	<0.01	94	0.03	<0.01	<0.005	<0.005	<0.005	0.001
29	BEL NOXON	01	1345	7230.	7.5	0.7	0.3	0.03	0.02	0.1	<0.003	<0.01	95	0.02	<0.01	<0.005	<0.005	<0.005	0.001
30	IN CAB GOR	01	1500		7.5	1.1	0.9	0.02	0.01	0.1	<0.003	<0.01	95	0.02	<0.01	<0.005	0.007	<0.005	0.001
31	BEL CAB GO	01	1530	9190.	8.0	0.9	0.9	0.03	0.01	0.1	<0.003	<0.01	96	0.02	<0.01	<0.005	0.005	<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON OCT 29-NOV 1,1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	29	1030	8.40	8.25	386	12.0	<2.0	5.3							
02 BLACKFOOT	29	1140	8.50	8.32	273	12.40	<2.0	<5.0							
03 IN MILLTWN	29	1220	8.35	8.11	386	11.1	<2.0	5.4							
04 BEL MILLTN	29	1320	8.40	8.23	343	12.00	<2.0	<5.0							
05 ABV MSLA	29	1510	8.60	8.28	344	12.40	<2.0	8.8							
06 ABV STP	29	1700	8.75	8.37	339	12.30	<2.0	<5.0							
07 STP EFFLNT	29	1710	7.55	6.91	738	5.50	55.7	107.							
08 BEL STP	29	1720	8.20	7.25	388	11.45	10.5	21.6							
09 SHUFFIELDS	29	1800	8.75	8.25	343	12.10	<2.0	<5.0							
10 BITTERROOT	29	1845	8.40	8.07	146	12.05	<2.0	<5.0							
11 HARPER BR	29	2030	8.40	8.19	271	11.70	<2.0	<5.0	3.6	3.6					
12 CHAMP 001															
12 CHAMP 003	29	2345	8.40	7.39	2693		65.5	795.	1640.	1500.					
13 MARCURE	30	0015	8.55	8.06	307	11.30	<2.0	8.2	17.0	16.5					
14 FRENCHTOWN	30	0145	8.60	8.05	289	11.20	<2.0	5.8	9.7	9.3					
15 HUSON	30	0315	8.60	8.09	283	11.35	<2.0	<5.0	8.5	8.4					
16 9-MILE	30	0700	8.35	8.09	279	11.05	<2.0	5.7							
17 ABV ALBERT	30	0900	8.35	8.10	277	11.70	<2.0	5.3							
18 TARKIO	30	2100	8.50	8.22	273	12.05	2.6	5.4							
19 LOZEAU	30	2320	8.40	8.18	272	11.75	<2.0	<5.0							
20 SUPERIOR	31	0700	8.35	8.13	270	11.50	<2.0	6.6							
21 BEL ST REG	31	1100	8.40	8.21	263	12.45	<2.0	<5.0							
22 ABV FLATHD	31	2245	8.10	8.17	264	11.90	<2.0	<5.0							
23 FLATHEAD R	01	1245	8.55	8.32	175	12.70	<2.0	<5.0							
24 PLAINS	01	0001	8.20	8.18	207	11.90	<2.0	<5.0							
25 ABV T FALL	31	1500	8.55	8.29	206	12.40	<2.0	<5.0							
26 IN T FALLS	31	1630	8.40	8.25	201	11.90	<2.0	<5.0							
27 BEL T FALL	01	0915	8.35	8.24	205	12.35	<2.0	<5.0							
28 IN NOXON	01	1145	8.35	8.17	198	11.20	<2.0	<5.0							
29 BEL NOXON	01	1345	8.35	8.15	196	10.90	<2.0	<5.0							
30 IN CAB GOR	01	1500	8.40	8.14	196	10.75	<2.0	<5.0							
31 BEL CAB GO	01	1530	8.20	8.11	194	10.50	<2.0	5.0							

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON DEC 10-12, 1984

	STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01	TURAH	10	1315	955.	0.0	20.8	4.3	0.18	0.01	0.3	0.018	0.045		0.26	0.01	0.03	0.06	<0.005	0.006
02	BLACKFOOT	10	1400	600.	0.0	2.3	1.5	0.03	0.01	0.1	<0.003	0.007		0.05	<0.01	0.005	<0.005	<0.005	0.001
03	IN MILLTWN																		
04	BEL MILLTN	10	1500	1860.	0.0	5.6	1.8	0.10	0.03	0.2	0.01	0.016		0.12	<0.01	0.016	0.07	<0.005	0.004
05	ABV MSLA																		
06	ABV STP	11	0830	1860.	0.0	3.1	1.4	0.11	0.02	0.2	0.007	0.013		0.10	<0.01	0.017	0.06	<0.005	0.004
07	STP EFFLNT	11	0900	11.45	13.0	31.9	31.8	5.20	9.2	13.0	4.84	6.2		0.09	0.03	0.076	0.006	<0.005	0.002
08	BEL STP																		
09	SHUFFIELDS	11	0945	1870.	0.0	3.7	1.8	0.13	0.05	0.3	0.030	0.037		0.11	0.01	0.012	0.06	<0.005	0.004
10	BITTERROOT	10	1630	980.	1.0	2.7	1.9	0.07	0.01	0.3	<0.003	0.009		0.06	<0.01	<0.005	0.01	<0.005	<0.001
11	HARPER BR	11	1030	2850.	0.0	4.0	2.0	0.12	0.02	0.3	0.013	0.020		0.08	<0.01	0.012	0.03	<0.005	0.002
12	CHAMP 001																		
12	CHAMP 003	11	1130	4.70	1.0	72.6	72.6	0.02	8.6	16.9	3.14	4.2		0.48	<0.01	0.043	0.92	<0.005	0.004
13	MARCURE																		
14	FRENCHTOWN																		
15	HUSON	11	1300	2855.	0.0	4.6	2.2	0.12	0.03	0.3	0.023	0.032		0.09	<0.01	0.007	0.04	<0.005	0.003
16	9-MILE																		
17	ABV ALBERT																		
18	TARKIO																		
19	LOZEAU																		
20	SUPERIOR	11	1445		0.0	2.7	1.9	0.08	0.01	0.2	0.012	0.022		0.06	<0.01	<0.005	0.02	<0.005	0.002
21	BEL ST REG	11	1600	3550.	0.0	2.3	1.7	0.06	0.01	0.2	0.008	0.015		0.05	<0.01	<0.005	0.01	<0.005	0.002
22	ABV FLATHD																		
23	FLATHEAD R	11	1715	10250.	0.0	1.7	1.3	0.03	0.01	0.1	<0.003	0.003		0.03	<0.01	<0.005	<0.005	<0.005	<0.001
24	PLAINS																		
25	ABV T FALL	12	1430	13800.	0.0	1.6	1.6	0.03	<0.01	0.2	<0.003	0.005		0.03	<0.01	<0.005	<0.005	<0.005	<0.001
26	IN T FALLS																		
27	BEL T FALL	12	0830	14761.	0.0	0.8	0.8	0.02	<0.01	0.1	<0.003	0.003		0.02	<0.01	<0.005	<0.005	<0.005	0.008
28	IN NOXON																		
29	BEL NOXON	12	1000	15000.	1.0	1.3	1.3	0.02	0.01	0.2	<0.003	0.003		0.02	<0.01	<0.005	<0.005	<0.005	<0.001
30	IN CAB GOR																		
31	BEL CAB GO	12	1130	16700.	1.7	1.0	1.0	0.02	<0.01	0.2	<0.003	0.003		0.03	<0.01	<0.005	<0.005	<0.005	<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON DEC 10-12, 1984

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO_4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	10	1315													
02 BLACKFOOT	10	1400													
03 IN MILLTWN															
04 BEL MILLTN	10	1500													
05 ABV MSLA															
06 ABV STP	11	0830													
07 STP EFFLNT	11	0900													
08 BEL STP															
09 SHUFFIELDS	11	0945													
10 BITTERROOT	10	1630													
11 HARPER BR	11	1030													
12 CHAMP 001															
12 CHAMP 003	11	1130													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	11	1300													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR	11	1445													
21 BEL ST REG	11	1600													
22 ABV FLATHD															
23 FLATHEAD R	11	1715													
24 PLAINS															
25 ABV T FALL	12	1430													
26 IN T FALLS															
27 BEL T FALL	12	0830													
28 IN NOXON															
29 BEL NOXON	12	1000													
30 IN CAB GOR															
31 BEL CAB GO	12	1130													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JAN 14-15, 1985

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	14	1015	760.	0.0	1.0	1.0	0.20	0.02	0.1	0.017	0.016		0.03	<0.01	0.011	0.009	<0.005	0.008
02 BLACKFOOT	14	1100	480.	0.0	0.4	0.4	0.05	0.03	0.1	0.003	0.003		0.01	<0.01	<0.005	<0.005	<0.005	0.001
03 IN MILLTWN																		
04 BEL MILLTN	14	1200	1400.	0.0	1.1	1.0	0.14	0.03	0.1	0.011	0.010		0.03	<0.01	0.011	0.02	<0.005	0.006
05 ABV MSLA																		
06 ABV STP	14	1230	1400.	0.0	0.7	0.7	0.15	0.03	0.1	0.010	0.009		0.02	<0.01	0.010	0.008	<0.005	0.007
07 STP EFFLNT	14	1300	12.38	11.0	27.5	27.5	9.5	4.14	7.5	5.09	5.98		0.04	0.02	0.051	0.005	<0.005	0.003
08 BEL STP																		
09 SHUFFIELDS	14	1430	1410.	0.0	1.2	1.2	0.25	0.06	0.1	0.065	0.060		0.02	<0.01	0.011	0.009	<0.005	0.007
10 BITTERROOT	14	1340	250.	0.0	2.2	1.6	0.16	0.04	0.1	0.008	0.011		0.06	<0.01	<0.005	0.02	<0.005	<0.001
11 HARPER BR	14	1515	1660.	0.0	2.5	1.6	0.20	0.03	0.1	0.020	0.022		0.04	<0.01	0.010	0.013	<0.005	0.004
12 CHAMP 001																		
12 CHAMP 003	14	1600	0.	0.0	99.8	99.8	0.02	6.73	19.6	2.84	4.12		0.50	<0.01	0.046	0.78	<0.005	0.001
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	14	1645	1660.	0.0	1.8	1.5	0.20	0.03	0.1	0.026	0.023		0.04	<0.01	0.006	0.04	<0.005	0.004
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	15	0945	2430.	0.0	1.1	1.1	0.10	0.03	0.1	0.013	0.009		0.02	<0.01	<0.005	0.006	<0.005	0.004
22 ABV FLATHD																		
23 FLATHEAD R	15	1100	10870.	0.0	1.3	1.0	0.03	0.02	0.1	0.002	0.013		0.02	<0.01	<0.005	<0.005	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	15	1215	13300.	0.0	0.8	0.8	0.03	0.02	0.1	<0.001	<0.001		0.01	<0.01	<0.005	<0.005	<0.005	<0.001
26 IN T FALLS																		
27 BEL T FALL	15	1320	14141.	0.0	0.8	0.8	0.03	0.02	0.1	0.005	0.001		<0.01	<0.01	<0.005	<0.005	<0.005	<0.001
28 IN NOXON																		
29 BEL NOXON	15	1545	14600.	0.0	0.2	0.2	0.04	0.03	0.1	0.001	<0.001		0.01	<0.01	<0.005	<0.005	<0.005	<0.001
30 IN CAB GOR																		
31 BEL CAB GO	15	1630	16800.	0.0	0.4	0.4	0.03	0.03	0.1	<0.001	<0.001		0.01	<0.01	<0.005	<0.005	<0.005	<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JAN 14-15, 1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	14	1015													
02 BLACKFOOT	14	1100													
03 IN MILLTWN															
04 BEL MILLTN	14	1200													
05 ABV MSLA															
06 ABV STP	14	1230													
07 STP EFFLNT	14	1300													
08 BEL STP															
09 SHUFFIELDS	14	1430													
10 BITTERROOT	14	1340													
11 HARPER BR	14	1515													
12 CHAMP 001															
12 CHAMP 003	14	1600													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	14	1645													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	15	0945													
22 ABV FLATHD															
23 FLATHEAD R	15	1100													
24 PLAINS															
25 ABV T FALL	15	1215													
26 IN T FALLS															
27 BEL T FALL	15	1320													
28 IN NOXON															
29 BEL NOXON	15	1545													
30 IN CAB GOR															
31 BEL CAB GO	15	1630													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON FEB 13-14, 1985

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	13	1015	707.	0.0	7.8	2.3	0.28	<0.01	0.2	0.023	0.033		0.11	0.01	0.024	0.03	<0.005	0.007
02 BLACKFOOT	13	1100	580.	0.0	1.5	1.1	0.06	<0.01	0.2	0.003	0.005		0.02	<0.01	<0.005	<0.005	<0.005	0.001
03 IN MILLTWN																		
04 BEL MILLTN	13	1200	1740.	0.0	4.0	1.3	0.18	0.02	0.2	0.015	0.023		0.08	<0.01	0.016	0.02	<0.005	0.005
05 ABV MSLA																		
06 ABV STP	13	1240	1740.	0.0	3.6	1.3	0.18	0.01	0.2	0.011	0.018		0.06	<0.01	0.013	0.02	<0.005	0.004
07 STP EFFLNT	13	1300	11.06	11.0	13.7	13.7	1.21	10.2	14.1	2.91	3.64		0.12	0.02	0.111	0.01	<0.005	0.002
08 BEL STP																		
09 SHUFFIELDS	13	1440	1750.	0.0	6.0	1.8	0.18	0.10	0.3	0.036	0.045		0.07	<0.01	0.013	0.02	<0.005	0.005
10 BITTERROOT	13	1345	250.	0.0	3.6	1.7	0.20	0.02	0.2	0.013	0.020		0.08	<0.01	<0.005	0.02	<0.005	<0.001
11 HARPER BR	13	1515	2000.	0.0	3.8	1.4	0.22	0.04	0.3	0.025	0.033		0.07	<0.01	0.008	0.02	<0.005	0.003
12 CHAMP 001																		
12 CHAMP 003	13	1600	0.	0.0	119.0	119.0	<0.01	6.68	20.	2.70	4.00		0.46	<0.01	0.039	0.78	<0.005	0.001
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	13	1645	2000.	0.0	10.1	2.5	0.23	0.06	0.4	0.041	0.056		0.12	<0.01	0.008	0.05	<0.005	0.003
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	14	1000	2500.	0.0	1.3	1.1	0.17	<0.01	0.2	0.018	0.023		0.02	<0.01	<0.005	0.006	<0.005	0.003
22 ABV FLATHD																		
23 FLATHEAD R	14	1100	12900.	0.0	2.6	1.1	0.03	<0.01	0.1	<0.001	0.002		0.02	<0.01	<0.005	<0.005	<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	14	1300	15400.	0.0	1.2	1.0	0.05	<0.01	0.1	0.003	0.002		0.01	<0.01	<0.005	<0.005	<0.005	<0.001
26 IN T FALLS																		
27 BEL T FALL	14	1400	15537.	0.0	0.9	0.9	0.05	<0.01	0.1	<0.001	0.004		0.02	<0.01	<0.005	<0.005	<0.005	<0.001
28 IN NOXON																		
29 BEL NOXON	14	1530	16700.	0.0	0.3	0.3	0.03	<0.01	0.1	0.001	0.001		0.02	<0.01	0.005	0.006	<0.005	<0.001
30 IN CAB GOR																		
31 BEL CAB GO	14	1630	23500.	0.0	0.4	0.4	0.02	<0.01	0.1	<0.001	0.001		0.02	<0.01	<0.005	0.005	<0.005	<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON FEB 13-14, 1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	13	1015													
02 BLACKFOOT	13	1100													
03 IN MILLTWN															
04 BEL MILLTN	13	1200													
05 ABV MSLA															
06 ABV STP	13	1240													
07 STP EFFLNT	13	1300													
08 BEL STP															
09 SHUFFIELDS	13	1440													
10 BITTERROOT	13	1345													
11 HARPER BR	13	1515													
12 CHAMP 001															
12 CHAMP 003	13	1600													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	13	1645													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	14	1000													
22 ABV FLATHD															
23 FLATHEAD R	14	1100													
24 PLAINS															
25 ABV T FALL	14	1300													
26 IN T FALLS															
27 BEL T FALL	14	1400													
28 IN NOXON															
29 BEL NOXON	14	1530													
30 IN CAB GOR															
31 BEL CAB GO	14	1630													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON MARCH 18-21, 1985

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	18	0945	1120.	4.0	56.4	11.1	0.23	0.03	0.8	0.102	0.15	176	0.56	0.04	0.078	0.18	<0.005	0.013
02 BLACKFOOT	18	1115	658.	1.0	14.3	5.9	0.02	<0.01	0.8	0.067	0.10	118	0.17	<0.01	<0.005	0.02	<0.005	0.001
03 IN MILLTWN	18	1320		5.0	15.3	4.3	0.22	0.02	0.6	0.062	0.091	175	0.19	0.01	0.029	0.10	<0.005	0.007
04 BEL MILLTN	18	1230	1790.	4.0	12.5	5.1	0.13	0.02	0.5	0.051	0.080	152	0.23	0.01	0.025	0.06	<0.005	0.006
05 ABV MSLA	18	1430	1790.	5.0	15.8	5.6	0.12	0.02	0.5	0.050	0.080	153	0.15	<0.01	0.019	0.05	<0.005	0.006
06 ABV STP	18	1620	1790.	5.5	17.6	4.5	0.10	<0.01	0.6	0.049	0.080	152	0.16	<0.01	0.110	0.05	<0.005	0.006
07 STP EFFLNT	18	1630	9.59	13.0	12.3	12.3	9.77	13.0	17.5	7.223	8.23	173	0.09	<0.01	0.056	0.01	<0.005	0.002
08 BEL STP	18	1645	1800.	6.3	15.7	4.3	1.14	1.21	2.2	0.796	0.91	154	0.22	0.02	0.031	0.06	<0.005	0.005
09 SHUFFIELDS	18	1715	1800.	5.4	17.1	4.7	0.15	0.06	0.7	0.081	0.124	153	0.20	0.01	0.024	0.06	<0.005	0.006
10 BITTERROOT	18	1830	880.	8.0	12.8	3.2	0.10	<0.01	0.5	0.020	0.038	63	0.08	<0.01	<0.005	0.02	<0.005	<0.001
11 HARPER BR	18	2150	2680.	7.0	21.0	4.8	0.16	0.01	0.7	0.053	0.088	126	0.11	<0.01	0.011	0.03	<0.005	0.004
12 CHAMP 001																		
12 CHAMP 003	18	2315	2.76	2.5	86.5	86.5	<0.01	8.22	16.8	3.16	3.90	200	0.44	<0.01	0.033	1.12	<0.005	0.001
13 MARCURE	18	2345	2685.	6.3	19.9	5.5	0.15	0.04	0.8	0.067	0.103	131	0.23	0.01	0.016	0.12	<0.005	0.005
14 FRENCHTOWN	19	0100	2685.	6.2	19.7	5.4	0.15	0.03	0.6	0.061	0.092	129	0.18	<0.01	0.014	0.08	<0.005	0.004
15 HUSON	19	0330	2685.	5.8	22.4	5.5	0.15	0.02	0.7	0.058	0.097	130	0.23	0.01	0.020	0.09	<0.005	0.004
16 9-MILE	19	0700		5.2	23.5	5.1	0.14	0.02	0.7	0.054	0.093	129	0.22	<0.01	0.020	0.09	<0.005	0.004
17 ABV ALBERT	19	0900		5.4	23.8	5.7	0.16	0.01	0.6	0.053	0.093	128	0.24	0.01	0.020	0.09	<0.005	0.004
18 TARKIO	19	2030		6.9	20.0	5.2	0.12	0.01	0.6	0.049	0.110	122	0.20	0.01	0.024	0.07	<0.005	0.004
19 LOZEAU	19	1115		6.0	19.8	5.2	0.12	0.01	0.6	0.046	0.083	123	0.19	<0.01	0.012	0.07	<0.005	0.004
20 SUPERIOR	20	0615		5.8	20.1	5.2	0.11	0.02	0.6	0.044	0.079	122	0.19	<0.01	0.019	0.07	<0.005	0.003
21 BEL ST REG	20	0915	3680.	5.8	17.9	5.5	0.05	<0.01	0.4	0.028	0.060	118	0.13	<0.01	0.019	0.05	<0.005	0.003
22 ABV FLATHD	20	2200	3680.	6.5	15.6	4.3	0.03	<0.01	0.3	0.024	0.059	118	0.11	<0.01	0.01	0.05	<0.005	0.003
23 FLATHEAD R	20	1130	7320.	6.0	20.4	2.4	0.01	<0.01	0.1	0.006	0.023	91	0.10	<0.01	<0.005	0.01	<0.005	<0.001
24 PLAINS	20	2300	11000.	6.0	14.9	2.8	0.02	<0.01	0.1	0.010	0.030	101	0.13	<0.01	<0.005	0.02	<0.005	0.001
25 ABV T FALL	20	1330	11000.	6.6	10.2	2.3	<0.01	<0.01	0.3	0.007	0.024	101	0.12	<0.01	0.006	0.02	<0.005	0.001
26 IN T FALLS	20	1445		6.1	6.9	1.6	<0.01	<0.01	0.2	0.005	0.022	100	0.12	<0.01	0.027	0.02	<0.005	0.001
27 BEL T FALL	20	1515	11270.	6.3	7.1	2.7	<0.01	<0.01	0.1	0.005	0.021	100	0.09	<0.01	<0.005	0.02	<0.005	0.001
28 IN NOXON	21	1330		5.7	11.3	2.0	0.04	0.01	0.1	0.006	0.020	106	0.14	<0.01	<0.005	0.01	<0.005	0.001
29 BEL NOXON	21	1000	15700.	3.5	2.3	1.4	0.04	<0.01	0.1	0.002	0.014	100	0.07	<0.01	0.009	0.02	<0.005	0.001
30 IN CAB GOR	21	1145		3.4	1.9	1.4	0.04	<0.01	0.1	0.002	0.013	98	0.07	<0.01	0.123	0.02	<0.005	0.001
31 BEL CAB GO	21	1230	18900.	3.5	2.5	1.0	0.04	<0.01	0.1	<0.001	0.012	98	0.05	<0.01	<0.005	0.01	<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON MARCH 18-21, 1985

	STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01	TURAH	18	0945	8.05	8.05	386	11.95	3.6	15.2				0.047	0.0885	0.0008	0.005
02	BLACKFOOT	18	1115	8.20	8.18	249	13.35	3.1	13.4				0.002	0.0098	0.0001	<0.001
03	IN MILLTWN	18	1320	7.95	8.08	383	11.10	<2.0	12.4							
04	BEL MILLTN	18	1230	8.15	8.22	330	12.40	2.2	9.1				0.015	0.0274	0.0002	0.003
05	ABV MSLA	18	1430	8.40	8.36	333	12.95	2.5	9.6							
06	ABV STP	18	1620	8.35	8.44	328	13.25	2.6	13.6				0.020	0.0334	0.0004	0.003
07	STP EFFLNT	18	1630	7.20	7.12	764	6.50	13.8	51.6				0.017	0.0679	0.0004	0.003
08	BEL STP	18	1645	8.10	7.91	384	12.55	3.7	15.2							
09	SHUFFIELDS	18	1715	8.40	8.40	328	13.10	2.5	11.8				0.018	0.0347	0.0011	0.004
10	BITTERROOT	18	1830	8.05	8.12	148	11.70	<2.0	5.6				0.003	0.0091	0.0002	0.014
11	HARPER BR	18	2150	8.45	8.33	275	11.50	<2.0	12.0	18.	17.		0.011	0.0275	0.0009	0.008
12	CHAMP 001															
12	CHAMP 003	18	2315	8.40	7.90	2991		67.5	755.	798.	835.		0.012	0.0618	0.0032	0.017
13	MARCURE	18	2345	8.35	8.13	322	10.95	2.5	15.3	29.	28.					
14	FRENCHTOWN	19	0100	8.05	8.18	296	10.65	2.5	11.0	23.	22.					
15	HUSON	19	0330	8.05	8.17	293	10.80	2.5	11.5	21.	20.		0.028	0.0574	0.0043	0.043
16	9-MILE	19	0700	8.00	8.13	292	10.65	2.9	13.3							
17	ABV ALBERT	19	0900	8.15	8.19	290	11.20	2.7	15.3							
18	TARKIO	19	2030	8.00	8.20	284	11.45	2.4	11.4							
19	LOZEAU	19	1115	8.25	8.13	284	11.05	3.6	8.0							
20	SUPERIOR	20	0615	7.95	8.05	279	10.65	2.6	9.6							
21	BEL ST REG	20	0915	8.20	8.09	270	11.75	3.0	7.7				0.007	0.017[illegible]	0.0001	0.002
22	ABV FLATHD	20	2200	8.20	8.24	270	11.70	2.7	11.3							
23	FLATHEAD R	20	1130	8.60	8.33	184	12.35	<2.0	<5.0				0.003	[illegible]	0.0001	0.003
24	PLAINS	20	2300	8.35	8.33	213	11.90	2.2	<5.0							
25	ABV T FALL	20	1330	8.25	8.26	213	12.55	<2.0	<5.0				0.002	[illegible]	0.0001	0.002
26	IN T FALLS	20	1445	8.40	8.46	216	12.20	<2.0	<5.0							
27	BEL T FALL	20	1515	8.70	8.49	211	12.35	<2.0	<5.0				0.002	[illegible]	0.0006	0.004
28	IN NOXON	21	1330	8.05	8.28	221	12.00	<2.0	<5.0							
29	BEL NOXON	21	1000	8.00	8.21	207	12.20	<2.0	<5.0				0.002	[illegible]	0.0001	0.004
30	IN CAB GOR	21	1145	8.05	8.17	206	12.25	<2.0	<5.0							
31	BEL CAB GO	21	1230	8.10	8.27	205	12.85	<2.0	<5.0				0.001	0.006[illegible]	0.0004	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS) A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON APRIL 10, 1985

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	10	0800	1407.	7.0	44.0	6.9	0.14	<0.01	0.3	0.059	0.091	167						0.010
02 BLACKFOOT	10	0845	1020.	6.0	14.8	3.1	0.02	<0.01	0.1	0.013	0.037	112						0.001
03 IN MILLTWN																		
04 BEL MILLTN	10	0930	2380.	8.0	16.8	2.9	0.08	<0.01	0.1	0.030	0.049	142						0.005
05 ABV MSLA																		
06 ABV STP	10	1015	2380.	8.6	18.2	3.0	0.07	<0.01	0.01	0.030	0.031	138						0.005
07 STP EFFLNT	10	1030	11.68	13.0	8.9	8.9	2.47	7.56	9.4	3.57	3.93	172						0.002
08 BEL STP																		
09 SHUFFIELDS	10	1200	2390.	9.2	15.1	2.6	0.08	0.03	0.2	0.046	0.070	142						0.005
10 BITTERROOT	10	1115	1690.	9.0	33.7	5.4	0.04	<0.01	0.1	0.021	0.054	47						<0.001
11 HARPER BR	10	1230	4080.	9.6	27.1	3.9	0.07	<0.01	0.2	0.032	0.063	110						0.004
12 CHAMP 001																		
12 CHAMP 003	10	1300	6.79	8.2	52.7	52.7	0.81	5.82	15.3	2.20	2.85	170						0.001
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	10	1345	4090.	10.5	25.2	4.2	0.052	<0.01	0.1	0.026	0.065	110						0.003
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	10	1530	5750.	10.0	19.3	3.4	0.056	<0.01	0.2	0.030	0.052	89						0.003
22 ABV FLATHD																		
23 FLATHEAD R	10	1615	5950.	9.5	2.9	1.1	0.02	<0.01	0.1	<0.001	0.008	84						<0.001
24 PLAINS																		
25 ABV T FALL	10	1715	11700.	10.6	7.7	2.0	0.02	<0.01	0.1	0.009	0.024	91						0.002
26 IN T FALLS																		
27 BEL T FALL	10	1800	12990.		4.8	1.5	0.02	<0.01	0.1	0.008	0.024	88						0.001
28 IN NOXON																		
29 BEL NOXON	10	2000	14600.		2.5	1.2	0.02	<0.01	0.1	0.003	0.012	96						0.001
30 IN CAB GOR																		
31 BEL CAB GO	10	1900	17100.		2.5	1.1	0.03	<0.01	0.1	0.002	0.013	95						0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON APRIL 10, 1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	O.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	10	0800										0.034	0.0652	0.0001	0.010
02 BLACKFOOT	10	0845										0.002	0.0045	0.0001	0.004
03 IN MILLTWN															
04 BEL MILLTN	10	0930										0.014	0.0299	0.0007	0.039
05 ABV MSLA															
06 ABV STP	10	1015										0.016	0.0281	0.0016	0.019
07 STP EFFLNT	10	1030										0.022	0.0573	0.0047	0.058
08 BEL STP															
09 SHUFFIELDS	10	1200										0.012	0.0255	0.0005	0.008
10 BITTERROOT	10	1115										0.002	0.0060	0.0002	0.009
11 HARPER BR	10	1230										0.009	0.0232	0.0003	0.003
12 CHAMP 001															
12 CHAMP 003	10	1300										0.008	0.0413	0.063	0.013
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	10	1345										0.010	0.0251	0.0020	0.004
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	10	1530										0.008	0.0116	0.0014	0.005
22 ABV FLATHD															
23 FLATHEAD R	10	1615										<0.001	0.0069	0.0010	0.006
24 PLAINS															
25 ABV T FALL	10	1715										0.035	0.0095	0.0019	0.004
26 IN T FALLS															
27 BEL T FALL	10	1800										0.002	0.0049	0.0003	0.002
28 IN NOXON															
29 BEL NOXON	10	2000										<0.001	0.0054	0.0008	0.005
30 IN CAB GOR															
31 BEL CAB GO	10	1900										0.002	0.0083	0.0015	0.005

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON APRIL 23-24, 1985

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	23	0900	1701.	5.0	20.0	5.2	0.05	<0.01	0.4	0.029	0.048	130		0.02	0.028		<0.005	0.007
02 BLACKFOOT	23	1000	2430.	5.0	8.4	3.5	<0.01	<0.01	0.4	0.006	0.019	78		<0.01	<0.005		<0.005	<0.001
03 IN MILLTWN																		
04 BEL MILLTN	23	1100	4140.	5.0	12.4	4.3	0.02	<0.01	0.4	0.014	0.036	98		<0.01	0.008		<0.005	0.003
05 ABV MSLA																		
06 ABV STP	23	1230	4140.	6.0	10.8	3.9	0.02	<0.01	0.4	0.014	0.028	94		<0.01	0.012		<0.005	0.003
07 STP EFFLNT	23	1300	13.07	13.4	23.9	23.7	6.85	10.8	19.8	6.35	7.30	163		0.01	0.059		<0.005	0.001
08 BEL STP																		
09 SHUFFIELDS	23	1330	4150.	6.0	11.7	3.9	0.03	0.03	0.4	0.032	0.044	95		<0.01	0.010		<0.005	0.003
10 BITTERROOT	23	1200	3405.	6.0	8.1	3.7	0.05	<0.01	0.3	0.009	0.018	32		<0.01	<0.005		<0.005	<0.001
11 HARPER BR	23	1400	7560.	7.0	13.1	4.7	0.04	<0.01	0.4	0.017	0.031	79		<0.01	0.008		<0.005	0.002
12 CHAMP 001																		
12 CHAMP 003	23	1430	20.73	10.0	97.6	95.7	<0.01	4.98	17.0	1.56	2.37	144		<0.01	0.047		<0.005	0.007
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	23	1530	7590.	7.3	13.5	4.2	0.04	0.02	0.4	0.023	0.041	74		<0.01	0.007		<0.005	0.002
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	23	1700	10500.	7.0	15.8	4.8	0.06	<0.01	0.3	0.020	0.035	66		<0.01	0.007		<0.005	0.002
22 ABV FLATHD																		
23 FLATHEAD R	23	1745	8800.	6.0	14.1	3.0	<0.01	<0.01	0.3	0.003	0.011	88		<0.01	<0.005		<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	23	1845	19300.	7.0	10.1	3.9	0.03	<0.01	0.3	0.012	0.022	76		<0.01	<0.005		<0.005	0.001
26 IN T FALLS																		
27 BEL T FALL	23	1930	29145.	7.0	9.9	3.4	0.03	<0.01	0.3	0.010	0.020	73		<0.01	<0.005		<0.005	0.001
28 IN NOXON																		
29 BEL NOXON	24	1130	21500.	8.0	5.7	1.3	0.06	0.03	0.3	0.013	0.026	62		<0.01	<0.005		<0.005	0.001
30 IN CAB GOR																		
31 BEL CAB GO	24	1015	27700.	9.0	4.9	1.2	0.06	0.03	0.3	0.010	0.019	63		<0.01	<0.005		<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON APRIL 23-24, 1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	23	0900										0.017	0.0381	0.0007	0.003
02 BLACKFOOT	23	1000										<0.001	0.0095	0.0013	0.009
03 IN MILLTWN															
04 BEL MILLTN	23	1100										0.006	0.0155	0.0008	0.006
05 ABV MSLA															
06 ABV STP	23	1230										0.007	0.0146	0.0004	0.003
07 STP EFFLNT	23	1300										0.033	0.0890	0.0031	0.017
08 BEL STP															
09 SHUFFIELDS	23	1330										0.009	0.0261	0.0017	0.008
10 BITTERROOT	23	1200										0.005	0.0134	0.0033	0.014
11 HARPER BR	23	1400										0.006	0.0241	0.0028	0.016
12 CHAMP 001															
12 CHAMP 003	23	1430										<0.001	0.0329	0.0015	0.010
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	23	1530										0.004	0.0149	0.0005	0.003
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	23	1700										0.002	0.0115	0.0004	0.023
22 ABV FLATHD															
23 FLATHEAD R	23	1745										<0.001	0.0154	0.0002	0.005
24 PLAINS															
25 ABV T FALL	23	1845										0.001	0.0092	0.0009	0.011
26 IN T FALLS															
27 BEL T FALL	23	1930										0.003	0.0045	0.0010	0.010
28 IN NOXON															
29 BEL NOXON	24	1130										<0.001	0.0041	0.0002	0.003
30 IN CAB GOR															
31 BEL CAB GO	24	1015										<0.001	0.0050	0.0004	0.006

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON MAY 8-9, 1985

	STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01	TURAH	08	0915	2600.	9.0	29.2	7.7	0.02	0.01	0.4	0.027	0.051	131		0.01	0.026		<0.005	0.006
02	BLACKFOOT	08	1000	4230.	8.0	28.0	5.5	0.01	<0.01	0.3	0.014	0.032	121		<0.01	<0.005		<0.005	<0.001
03	IN MILLTWN																		
04	BEL MILLTN	08	1100	6600.	9.0	28.0	5.8	0.01	0.02	0.3	0.019	0.043	122		<0.01	0.008		<0.005	0.001
05	ABV MSLA																		
06	ABV STP	08	1200	6600.	8.7	27.1	6.6	<0.01	0.02	0.3	0.020	0.041	85		<0.01	0.011		<0.005	0.002
07	STP EFFLNT	08	1215	12.07	13.0	22.2	22.2	3.44	3.35	6.98	3.61	4.50	166		0.01	0.066		<0.005	0.001
08	BEL STP																		
09	SHUFFIELDS	08	1345	6610.	9.0	27.2	6.2	<0.01	0.01	0.3	0.024	0.050	83		<0.01	0.012		<0.005	0.001
10	BITTERROOT	08	1300	4890.	8.0	13.7	4.3	0.03	0.02	0.2	0.009	0.021	25		<0.01	<0.005		<0.005	0.003
11	HARPER BR	08	1415	11500.	9.6	22.8	5.6	0.02	0.02	0.3	0.019	0.036	68		<0.01	0.009		<0.005	<0.001
12	CHAMP 001																		
12	CHAMP 003	08	1500	33.93	14.0	103.5	103.5	<0.01	5.10	21.0	1.30	2.96	152		<0.01	0.032		<0.005	0.002
13	MARCURE																		
14	FRENCHTOWN																		
15	HUSON	08	1645	11540.	10.0	26.2	6.2	0.03	0.04	0.4	0.024	0.049	61		0.01	0.005		<0.005	0.002
16	9-MILE																		
17	ABV ALBERT																		
18	TARKIO																		
19	LOZEAU																		
20	SUPERIOR																		
21	BEL ST REG	08	1820	15700.	9.0	27.2	5.5	0.05	0.02	0.3	0.022	0.042	59		<0.01	0.005		<0.005	0.002
22	ABV FLATHD																		
23	FLATHEAD R	08	1915	13300.	8.6	6.2	2.4	0.01	<0.01	0.1	<0.001	0.004	88		<0.01	<0.005		<0.005	<0.001
24	PLAINS																		
25	ABV T FALL	08	2015	29000.	8.8	18.1	4.8	0.03	0.02	0.2	0.012	0.026	74		<0.01	<0.005		<0.005	0.001
26	IN T FALLS																		
27	BEL T FALL	09	2045	30672.	8.7	20.3	4.4	0.03	0.02	0.2	0.013	0.030	71		<0.01	<0.005		<0.005	0.001
28	IN NOXON																		
29	BEL NOXON	09	1645	36700.	10.0	5.5	1.2	0.03	0.02	0.2	0.007	0.018	61		<0.01	<0.005		<0.005	0.001
30	IN CAB GOR																		
31	BEL CAB GO	09	1545	40400.	9.5	5.2	2.3	0.03	0.01	0.2	0.005	0.013	64		<0.01	<0.005		<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON MAY 8-9, 1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	08	0915										0.015	0.0354	<0.0001	0.003
02 BLACKFOOT	08	1000										<0.001	0.0090	0.0020	0.005
03 IN MILLTWN															
04 BEL MILLTN	08	1100										0.005	0.0261	0.0002	0.003
05 ABV MSLA															
06 ABV STP	08	1200										0.006	0.0171	0.0009	0.003
07 STP EFFLNT	08	1215										0.013	0.0813	0.0027	0.018
08 BEL STP															
09 SHUFFIELDS	08	1345										0.014	0.0613	0.0007	0.006
10 BITTERROOT	08	1300										<0.001	0.0090	0.0027	0.005
11 HARPER BR	08	1415										0.012	0.0231	0.0002	0.003
12 CHAMP 001															
12 CHAMP 003	08	1500										<0.001	0.0536	0.0037	0.009
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	08	1645										0.004	0.0180	0.0002	0.003
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	08	1820										0.008	0.0266	0.0014	0.014
22 ABV FLATHD															
23 FLATHEAD R	08	1915										0.004	0.0135	0.0006	0.004
24 PLAINS															
25 ABV T FALL	08	2015										0.001	0.0099	0.0008	0.010
26 IN T FALLS															
27 BEL T FALL	09	2045										0.001	0.0122	0.0005	0.005
28 IN NOXON															
29 BEL NOXON	09	1645										<0.001	0.0054	0.0010	0.010
30 IN CAB GOR															
31 BEL CAB GO	09	1545										0.003	0.0275	0.0096	0.051

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON MAY 22-23, 1985

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	22	1000	2358.	11.0	19.2	6.4	<0.01	<0.01	0.2	0.025	0.043	80						0.004
02 BLACKFOOT	22	1101	5350.	10.0	53.3	7.5	<0.01	<0.01	0.4	0.025	0.046	74						<0.001
03 IN MILLTWN																		
04 BEL MILLTN	22	1200	7440.	11.5	41.5	6.8	<0.01	<0.01	0.3	0.023	0.043	76						0.002
05 ABV MSLA																		
06 ABV STP	22	1300	7440.	11.5	33.6	6.8	<0.01	<0.01	0.3	0.021	0.037	68						0.002
07 STP EFFLNT	22	1330	11.76	15.0	32.6	32.6	3.47	3.74	8.7	3.73	4.67	170						0.001
08 BEL STP																		
09 SHUFFIELDS	22	1500	7450.	12.3	36.2	7.2	<0.01	0.01	0.4	0.028	0.034	71						0.002
10 BITTERROOT	22	1415	8750.	11.0	40.5	8.1	0.01	<0.01	0.3	0.020	0.025	12						<0.001
11 HARPEP BR	22	1600	16200.	13.3	37.2	6.6	<0.01	<0.01	0.3	0.027	0.050	50						0.001
12 CHAMP 001																		
12 CHAMP 003	22	1700	45.19	20.4	101.	101.	0.01	4.11	22.3	1.42	4.17	170						0.004
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	22	1800	16240.	13.5	50.8	7.7	0.01	0.02	0.5	0.038	0.073	43						0.001
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	22	2015	23200.	12.0	64.1	9.4	0.03	0.02	0.4	0.045	0.075	42						0.001
22 ABV FLATHD																		
23 FLATHEAD R	22	2100	11500.	11.5	7.2	3.6	<0.01	<0.01	0.1	0.010	0.012	87						<0.001
24 PLAINS																		
25 ABV T FALL	22	2140	34700.	13.5	39.7	6.8	0.02	0.01	0.4	0.024	0.042	58						<0.001
26 IN T FALLS																		
27 BEL T FALL	22	2245	38730.	13.5	33.9	7.0		0.01	0.3	0.022	0.039	56						<0.001
28 IN NOXON																		
29 BEL NOXON	23	1645	30500.	13.0	4.0	2.9	0.02	0.01	0.1	0.007	0.014	62						<0.001
30 IN CAB GOR																		
31 BEL CAB GO	23	1530	33000.	12.2	4.4	2.9	0.02	<0.01	0.1	0.003	0.010	62						<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON MAY 22-23, 1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	22	1000										0.008	0.0384	0.0006	0.002
02 BLACKFOOT	22	1101										0.002	0.0146	0.0003	0.003
03 IN MILLTWN															
04 BEL MILLTN	22	1200										0.005	0.0183	0.0008	0.002
05 ABV MSLA															
06 ABV STP	22	1300										0.007	0.0172	0.0003	0.003
07 STP EFFLNT	22	1330										0.027	0.0872	0.0004	0.004
08 BEL STP															
09 SHUFFIELDS	22	1500										0.007	0.0439	0.0011	0.003
10 BITTERROOT	22	1415										0.004	0.049	0.0005	0.006
11 HARPER BR	22	1600										0.011	0.0427	0.0023	0.005
12 CHAMP 001															
12 CHAMP 003	22	1700										0.005	0.0533	0.0022	0.010
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	22	1800										0.007	0.0276	0.0017	0.008
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	22	2015										0.010	0.0433	0.0056	0.005
22 ABV FLATHD															
23 FLATHEAD R	22	2100										0.004	0.0140	0.0012	0.009
24 PLAINS															
25 ABV T FALL	22	2140										0.007	0.0244	0.0017	0.007
26 IN T FALLS															
27 BEL T FALL	22	2245										0.005	0.0197	0.0022	0.014
28 IN NOXON															
29 BEL NOXON	23	1645										0.005	0.0138	0.0012	0.009
30 IN CAB GOR															
31 BEL CAB GO	23	1530										0.004	0.0195	0.0010	0.006

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JUNE 5-6, 1985

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	05	1015	2289.	15.0	14.1	4.8	<0.01	<0.01	0.3	0.025	0.042			<0.01	0.016		<0.005	0.006
02 BLACKFOOT	05	1100	3380.	9.9	12.5	3.6	<0.01	<0.01	0.2	0.007	0.015			<0.01	<0.005		<0.005	<0.001
03 IN MILLTWN																		
04 BEL MILLTN	05	1145	5520.	10.4	13.7	3.7	<0.01	<0.01	0.3	0.014	0.025			<0.01	<0.005		<0.005	0.002
05 ABV MSLA																		
06 ABV STP	05	1215	5520.	10.0	13.5	3.9	<0.01	<0.01	0.4	0.015	0.028			<0.01	0.005		<0.005	0.003
07 STP EFFLNT	05	1230	12.84	14.3	12.3	12.3	5.46	1.82	4.0	3.81	4.23			<0.01	0.063		<0.005	0.001
08 BEL STP																		
09 SHUFFIELDS	05	1400	5530.	10.5	13.4	4.2	<0.01	<0.01	0.3	0.019	0.034			<0.01	0.007		<0.005	0.003
10 BITTERROOT	05	1300	5965.	10.9	11.5	3.7	0.03	<0.01	0.2	0.008	0.019			<0.01	0.005		<0.005	<0.001
11 HARPER BR	05	1445	11500.	11.0	11.1	3.6	0.02	<0.01	0.2	0.014	0.025			<0.01	<0.005		<0.005	0.002
12 CHAMP 001	05	1600	13.59	15.0	103.2	103.2	<0.01	6.43	22.0	1.85	3.38			<0.01	0.038		<0.005	0.002
12 CHAMP 003	05	1530	24.95	16.0	61.7	61.7	<0.01	3.79	14.1	0.64	1.89			<0.01	0.019		<0.005	0.004
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	05	1645	11540.	11.2	13.5	4.1	0.03	0.01	0.2	0.018	0.036			<0.01	<0.005		<0.005	0.002
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	05	1830	15700.	11.4	14.5	3.5	0.04	<0.01	0.2	0.016	0.030			<0.01	<0.005		<0.005	0.001
22 ABV FLATHD																		
23 FLATHEAD R	05	1915	20000.	12.8	9.8	2.3	0.02	<0.01	0.1	<0.001	0.011			<0.01	<0.005		<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	05	2000	35700.	12.2	12.0	3.3	0.03	<0.01	0.2	0.007	0.022			<0.01	<0.005		<0.005	<0.001
26 IN T FALLS																		
27 BEL T FALL	06	0845	40546.	12.0	16.7	3.9	0.03	<0.01	0.2	0.011	0.025			<0.01	<0.005		<0.005	<0.001
28 IN NOXON																		
29 BEL NOXON	06	1030	35800.	12.	4.7	2.5	0.03	<0.01	0.2	0.004	0.015			<0.01	<0.005		<0.005	<0.001
30 IN CAB GOR																		
31 BEL CAB GO	06	1230	41900.	12.0	5.6	2.3	0.03	<0.01	0.2	0.003	0.015			<0.01	<0.005		<0.005	<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JUNE 5-6, 1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	05	1015													
02 BLACKFOOT	05	1100													
03 IN MILLTWN															
04 BEL MILLTN	05	1145													
05 ABV MSLA															
06 ABV STP	05	1215													
07 STP EFFLNT	05	1230													
08 BEL STP															
09 SHUFFIELDS	05	1400													
10 BITTERROOT	05	1300													
11 HARPER BR	05	1445													
12 CHAMP 001	05	1600													
12 CHAMP 003	05	1530													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	05	1645													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	05	1830													
22 ABV FLATHD															
23 FLATHEAD R	05	1915													
24 PLAINS															
25 ABV T FALL	05	2000													
26 IN T FALLS															
27 BEL T FALL	06	0845													
28 IN NOXON															
29 BEL NOXON	06	1030													
30 IN CAB GOR															
31 BEL CAB GO	06	1230													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JUNE 18-19, 1985

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	18	0900	1063.	12.1	4.7	3.1	<0.01	<0.01	0.2	0.014	0.024			<0.01	0.008		<0.005	0.005
02 BLACKFOOT	18	0940	2200.	13.0	6.9	3.1	<0.01	<0.01	0.1	0.002	0.011			<0.01	<0.005		<0.005	<0.001
03 IN MILLTWN																		
04 BEL MILLTN	18	1030	3290.	13.0	15.6	4.0	<0.01	<0.01	0.2	0.013	0.029			<0.01	0.011		<0.005	0.003
05 ABV MSLA																		
06 ABV STP	18	1130	3290.	13.5	13.3	3.9	<0.01	<0.01	0.2	0.010	0.023			0.01	0.024		0.005	0.003
07 STP EFFLNT	18	1200	12.99	15.0	4.5	4.5	5.31	0.81	2.30	4.01	4.28			<0.01	0.042		<0.005	0.001
08 BEL STP																		
09 SHUFFIELDS	18	1330	3300.	14.5	12.8	4.1	0.01	<0.01	0.2	0.024	0.041			<0.01	0.009		<0.005	0.003
10 BITTERROOT	18	1240	4170.	14.3	7.8	3.5	0.01	<0.01	0.2	0.005	0.017			<0.01	<0.005		<0.005	<0.001
11 HARPER BR	18	1415	7470.	15.4	8.1	3.2	0.01	<0.01	0.2	0.009	0.024			<0.01	<0.005		<0.005	0.002
12 CHAMP 001																		
12 CHAMP 003	18	1500	7.42	20.0	177.2	177.2	<0.01	4.34	15.7	0.64	2.52			<0.01	0.017		<0.005	0.004
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	18	1600	7480.	16.0	8.6	3.5	<0.01	<0.01	0.2	0.010	0.026			<0.01	<0.005		<0.005	0.001
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	19	1330	10100.	15.4	6.3	3.3	<0.01	<0.01	0.3	0.006	0.016			<0.01	<0.005		<0.005	0.001
22 ABV FLATHD																		
23 FLATHEAD R	19	1430	23400.	16.0	7.0	2.7	<0.01	<0.01	0.1	<0.001	0.007			<0.01	<0.005		<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	19	1530	33500.	16.6	8.4	2.9	<0.01	<0.01	0.1	0.001	0.011			<0.01	0.018		<0.005	<0.001
26 IN T FALLS																		
27 BEL T FALL	19	1630	34133.	16.0	10.4	3.1	<0.01	<0.01	0.2	0.002	0.013			<0.01	<0.005		<0.005	<0.001
28 IN NOXON																		
29 BEL NOXON	19	1745	29300.	14.0	2.6	2.1	<0.01	<0.01	0.1	<0.001	0.009			<0.01	<0.005		<0.005	<0.001
30 IN CAB GOR																		
31 BEL CAB GO	19	1900	35200.	14.2	3.4	2.3	0.01	<0.01	0.1	<0.001	0.009			<0.01	0.008		<0.005	<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JUNE 18-19, 1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	18	0900													
02 BLACKFOOT	18	0940													
03 IN MILLTWN															
04 BEL MILLTN	18	1030													
05 ABV MSLA															
06 ABV STP	18	1130													
07 STP EFFLNT	18	1200													
08 BEL STP															
09 SHUFFIELDS	18	1330													
10 BITTERROOT	18	1240													
11 HARPER BR	18	1415													
12 CHAMP 001															
12 CHAMP 003	18	1500													
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	18	1600													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	19	1330													
22 ABV FLATHD															
23 FLATHEAD R	19	1430													
24 PLAINS															
25 ABV T FALL	19	1530													
26 IN T FALLS															
27 BEL T FALL	19	1630													
28 IN NOXON															
29 BEL NOXON	19	1745													
30 IN CAB GOR															
31 BEL CAB GO	19	1900													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JULY 10-11, 1985

STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	10	0945	481.	17.0	4.1	1.7	0.03	<0.01	0.4	0.005	0.015			<0.01	0.006		<0.005	0.003
02 BLACKFOOT	10	0845	824.	18.0	2.1	1.1	<0.01	<0.01	0.2	<0.001	0.008			<0.01	<0.005		<0.005	0.001
03 IN MILLTWN																		
04 BEL MILLTN	10	1045	1310.	20.0	4.6	1.5	<0.01	<0.01	0.2	0.005	0.013			<0.01	0.006		<0.005	0.002
05 ABV MSLA																		
06 ABV STP	10	1130	1310.	20.5	4.0	1.4	<0.01	0.03	0.2	0.003	0.012			<0.01	0.023		<0.005	0.003
07 STP EFFLNT	10	1200	12.61	14.0	30.0	8.2	0.15	4.55	5.26	2.32	2.49			<0.01	0.033		<0.005	0.002
08 BEL STP																		
09 SHUFFIELDS	10	1415	1320.	21.0	4.2	1.5	0.01	0.05	0.3	0.033	0.039			<0.01	0.005		<0.005	0.002
10 BITTERROOT	10	1330	820.	19.8	2.3	1.2	0.08	0.01	0.2	0.007	0.017			<0.01	<0.005		<0.005	<0.001
11 HARPER BR	10	1515	2140.	19.8	3.9	1.4	0.05	0.02	0.2	0.012	0.021			<0.01	0.040		<0.005	0.002
12 CHAMP 001	10	1600	0.0	34.2	206.	206.	<0.01	2.22	26.5	1.10	4.95			<0.01	0.063		<0.005	0.007
12 CHAMP 003																		
13 MARCURE																		
14 FRENCHTOWN																		
15 HUSON	10	1645	2140.	21.1	3.2	1.4	0.04	0.02	0.4	0.016	0.027			<0.01	0.015		<0.005	0.002
16 9-MILE																		
17 ABV ALBERT																		
18 TARKIO																		
19 LOZEAU																		
20 SUPERIOR																		
21 BEL ST REG	11	1030	3300.	19.5	2.3	1.8	<0.01	0.03	0.2	0.004	0.017			<0.01	<0.005		<0.005	0.001
22 ABV FLATHD																		
23 FLATHEAD R	11	1130	9900.	21.5	1.5	1.4	<0.01	<0.01	0.2	<0.001	0.008			<0.01	<0.005		<0.005	<0.001
24 PLAINS																		
25 ABV T FALL	11	1300	13200.	21.7	1.7	1.6	<0.01	0.03	0.2	<0.001	0.008			<0.01	<0.005		<0.005	<0.001
26 IN T FALLS																		
27 BEL T FALL	11	1400	13826.	22.0	3.7	1.7	<0.01	<0.01	0.1	<0.001	0.009			<0.01	<0.005		<0.005	<0.001
28 IN NOXON																		
29 BEL NOXON	11	1515	13000.	18.5	1.1	1.1	<0.01	0.01	0.1	<0.001	0.008			<0.01	<0.005		<0.005	<0.001
30 IN CAB GOR																		
31 BEL CAB GO	11	1615	15000.	18.8	1.5	1.4	<0.01	0.01	0.2	<0.001	0.009			<0.01	<0.005		<0.005	<0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. STP EFFLUENT INCLUDES APPROXIMATELY 0.77 CFS DILUTION FROM CONSTRUCTION DEWATERING.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JULY 10-11, 1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	10	0945													
02 BLACKFOOT	10	0845													
03 IN MILLTWN															
04 BEL MILLTN	10	1045													
05 ABV MSLA															
06 ABV STP	10	1130													
07 STP EFFLNT	10	1200													
08 BEL STP															
09 SHUFFIELDS	10	1415													
10 BITTERROOT	10	1330													
11 HARPER BR	10	1515													
12 CHAMP 001	10	1600													
12 CHAMP 003															
13 MARCURE															
14 FRENCHTOWN															
15 HUSON	10	1645													
16 9-MILE															
17 ABV ALBERT															
18 TARKIO															
19 LOZEAU															
20 SUPERIOR															
21 BEL ST REG	11	1030													
22 ABV FLATHD															
23 FLATHEAD R	11	1130													
24 PLAINS															
25 ABV T FALL	11	1300													
26 IN T FALLS															
27 BEL T FALL	11	1400													
28 IN NOXON															
29 BEL NOXON	11	1515													
30 IN CAB GOR															
31 BEL CAB GO	11	1615													

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JUL 29-AUG 1,1985

	STATION	DAY	TIME	FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTAL P	HARD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01	TURAH	29	0945	349.	15.4	5.6	1.9	0.02	<0.01	0.2	0.005	0.017	147		<0.01	<0.005		<0.005	0.004
02	BLACKFOOT	29	1115	534.	17.1	2.2	1.0	<0.01	<0.01	0.1	0.001	0.009	131		<0.01	<0.005		<0.005	<0.001
03	IN MILLTWN	29	1215		19.0	10.0	2.9	0.01	0.04	0.4	0.018	0.039	151		<0.01	0.010		<0.005	0.005
04	BEL MILLTN	29	1300	1020.	19.7	4.9	1.1	0.01	0.04	0.3	0.009	0.020	139		<0.01	<0.005		<0.005	0.004
05	ABV MSLA	29	1530	1020.	21.5	4.5	1.1	<0.01	<0.01	0.2	0.006	0.017	138		<0.01	<0.005		<0.005	0.003
06	ABV STP	29	1730	1020.	21.9	5.4	1.3	<0.01	<0.01	0.2	0.006	0.016	135		<0.01	<0.005		<0.005	0.003
07	STP EFFLNT	29	1815	12.53	16.1	15.5	14.0	1.69	4.22	5.8	3.31	4.46	161		<0.01	0.053		<0.005	0.002
08	BEL STP	29	1830	1030.	21.3	6.0	2.1	0.14	0.38	0.8	0.26	0.34	135		<0.01	<0.005		<0.005	0.003
09	SHUFFIELDS	29	1915	1030.	21.4	5.5	1.6	0.04	0.05	0.3	0.060	0.079	133		<0.01	<0.005		<0.005	0.003
10	BITTERROOT	29	1630	310.	21.6	1.7	0.9	0.093	0.01	0.3	0.007	0.016	95		<0.01	<0.005		<0.005	<0.001
11	HARPER BR	30	0100	1480.	19.6	4.5	1.4	0.09	<0.01	0.3	0.023	0.037	123		<0.01	<0.005		<0.005	0.002
12	CHAMP 001	29	2100	.11	21.9	103.7	93.7	<0.01	6.18	21.9	2.06	7.01	165		<0.01	0.049		<0.005	0.004
12	CHAMP 003																		
13	MARCURE	30	0330	1480.	19.0	5.5	1.6	0.07	0.01	0.4	0.023	0.039	122		<0.01	<0.005		<0.005	0.002
14	FRENCHTOWN	30	0500	1480.	18.8	6.2	1.5	0.07	0.02	0.3	0.025	0.045	125		<0.01	<0.005		<0.005	0.002
15	HUSON	30	0730	1480.	18.5	5.9	1.6	0.05	<0.01	0.3	0.018	0.035	124		<0.01	<0.005		<0.005	0.002
16	9-MILE	30	1330		20.6	2.3	1.1	<0.01	<0.01	0.4	0.014	0.027	119		<0.01	<0.005		<0.005	0.003
17	ABV ALBERT	30	1530		20.9	1.7	1.1	<0.01	<0.01	0.3	0.013	0.023	119		<0.01	<0.005		<0.005	0.003
18	TARKIO	31	0515		19.1	3.4	1.3	<0.01	<0.01	0.2	0.007	0.019	116		<0.01	<0.005		<0.005	0.002
19	LOZEAU	31	0915		18.7	2.7	1.3	<0.01	<0.01	0.2	0.004	0.021	116		<0.01	<0.005		<0.005	0.002
20	SUPERIOR	31	1300		20.5	2.2	1.2	<0.01	<0.01	0.3	0.001	0.019	114		<0.01	<0.005		<0.005	0.002
21	BEL ST REG	31	2130	2140.	20.7	2.9	1.6	<0.01	<0.01	0.4	<0.001	0.019	109		<0.01	<0.005		<0.005	0.002
22	ABV FLATHD	01	0630	2110.	18.9	2.6	1.4	<0.01	<0.01	0.4	0.001	0.017	106		<0.01	<0.005		<0.005	0.002
23	FLATHEAD R	31	1630	10060.	23.6	0.8	0.6	<0.01	<0.01	0.4	<0.001	0.005	79		<0.01	0.043		<0.005	<0.001
24	PLAINS	01	0815	12500.	22.3	2.2	0.8	<0.01	<0.01	0.2	<0.001	0.007	90		<0.01	<0.005		<0.005	<0.001
25	ABV T FALL	01	0930	12500.	21.8	1.6	0.8	<0.01	<0.01	0.2	<0.001	0.007	87		<0.01	<0.005		<0.005	0.001
26	IN T FALLS	01	1100		22.8	3.8	1.1	<0.01	<0.01	0.2	0.001	0.010	88		<0.01	0.006		<0.005	0.001
27	BEL T FALL	01	1200	13205.	23.1	4.2	1.2	<0.01	<0.01	0.2	<0.001	0.009	87		<0.01	<0.005		<0.005	0.001
28	IN NOXON	01	1300		24.0	1.2	1.0	<0.01	<0.01	0.2	<0.001	0.013	88		<0.01	<0.005		<0.005	0.001
29	BEL NOXON	01	1345	12500.	22.1	0.8	0.6	0.02	<0.01	0.1	0.004	0.011	85		<0.01	<0.005		<0.005	0.001
30	IN CAB GOR	01	1500		23.0	0.7	0.6	<0.01	<0.01	0.2	<0.001	0.009	84		<0.01	<0.005		<0.005	0.001
31	BEL CAB GO	01	1600	15200.	21.5	1.2	0.7	<0.01	<0.01	0.2	<0.001	0.013	84		<0.01	<0.005		<0.005	0.001

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.
CHAMPION WASTEWATER SAMPLE IS FROM DISCHARGE 002. SEE FIELD NOTES IN APPENDIX TO REPORT.
STP EFFLUENT INCLUDES APPROXIMATELY 1.55 CFS DILUTION FROM CONSTRUCTION DEWATERING.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JUL 29-AUG 1,1985

STATION	DAY	TIME	PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	29	0945	7.85	7.95	311	9.40	<2.0	<5.0			47.6				
02 BLACKFOOT	29	1115	8.00	8.36	237	9.30	<2.0	<5.0			5.2				
03 IN MILLTWN	29	1215	7.80	8.23	310	8.20	<2.0	<5.0			44.1				
04 BEL MILLTN	29	1300	8.15	8.56	276	9.20	<2.0	9.2			25.9				
05 ABV MSLA	29	1530	8.60	8.76	266	10.20	<2.0	<5.0			24.0				
06 ABV STP	29	1730	8.80	8.84	260	9.85	<2.0	<5.0			23.6				
07 STP EFFLNT	29	1815	7.60	7.21	525	6.10	45.4	28.4			29.4				
08 BEL STP	29	1830	8.65	8.63	278	9.40	3.3	9.0			24.5				
09 SHUFFIELDS	29	1915	8.80	8.78	265	9.25	<2.0	5.6			23.3				
10 BITTERROOT	29	1630	8.60	8.52	202	10.65	<2.0	<5.0			5.3				
11 HARPER BR	30	0100	8.55	8.52	246	8.20	<2.0	<5.0	8.8	8.0	16.1				
12 CHAMP 001	29	2100	8.40	8.02	2810		134.	871.	1230.	1230.	677.				
12 CHAMP 003															
13 MARCURE	30	0330	8.45	8.37	267	7.40	<2.0	<5.0	11.8	12.2	16.0				
14 FRENCHTOWN	30	0500	8.35	8.20	273	7.15	<2.0	<5.0	10.9	11.8	17.7				
15 HUSON	30	0730	8.35	8.28	266	7.40	<2.0	<5.0	10.5	10.5	16.1				
16 9-MILE	30	1330	8.60	8.41	259	10.05	<2.0	<5.0			15.7				
17 ABV ALBERT	30	1530	8.75	8.64	257	10.40	<2.0	<5.0			15.5				
18 TARKIO	31	0515	8.55	8.46	251	8.10	<2.0	<5.0			14.4				
19 LOZEAU	31	0915	8.55	8.42	250	8.50	<2.0	<5.0			13.4				
20 SUPERIOR	31	1300	8.65	8.47	243	9.45	<2.0	<5.0			13.5				
21 BEL ST REG	31	2130	8.75	8.66	237	9.25	<2.0	<5.0			12.6				
22 ABV FLATHD	01	0630	8.35	8.43	235	7.50	<2.0	<5.0			11.5				
23 FLATHEAD R	31	1630	8.80	8.89	152	10.40	<2.0	<5.0			3.2				
24 PLAINS	01	0815	8.35	8.44	177	7.90	<2.0	<5.0			4.4				
25 ABV T FALL	01	0930	8.60	8.41	184	8.10	<2.0	<5.0			4.2				
26 IN T FALLS	01	1100	8.45	8.47	175	8.35	<2.0	5.2			4.0				
27 BEL T FALL	01	1200	8.55	8.50	175	8.55	<2.0	<5.0			4.0				
28 IN NOXON	01	1300	8.60	8.56	176	8.80	<2.0	<5.0			4.0				
29 BEL NOXON	01	1345	8.25	8.18	174	7.20	<2.0	<5.0			4.0				
30 IN CAB GOR	01	1500	8.20	8.22	173	7.70	<2.0	<5.0			4.0				
31 BEL CAB GO	01	1600	8.20	8.24	171	8.25	<2.0	<5.0			4.4				

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE.

TABLE 5

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

STATION		FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTL P	HRD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
01 TURAH	MAX:	7150.	17.0	555.	47.1	0.28	0.04	1.9	0.37	0.51	190	4.41	0.23	0.40	0.84	<0.005	0.045
	MIN:	349.	0.0	1.0	1.0	0.01	<0.01	0.1	0.005	0.01	80	0.03	<0.01	<0.005	0.009	<0.005	0.003
	MEAN:	1772.64	8.9	39.7	5.5	0.06	0.01	0.36	0.039	0.059	143.	0.46	0.02	0.039	0.101	0.005	0.008
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
02 BLACKFOOT	MAX:	5350.	18.0	138.	12.0	0.06	0.03	0.8	0.067	0.10	143	0.82	<0.01	0.02	0.10	<0.005	0.001
	MIN:	480.	0.0	0.4	0.4	<0.01	<0.01	0.1	<0.001	0.003	74	0.01	<0.01	<0.005	0.005	<0.005	0.001
	MEAN:	1845.60	8.5	15.7	2.8	0.02	0.01	0.24	0.012	0.021	112.	0.12	0.01	0.007	0.016	0.005	0.001
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
03 IN MILLTWN	MAX:		19.0	15.3	4.3	0.22	0.04	0.6	0.062	0.091	185	0.19	0.01	0.029	0.10	<0.005	0.008
	MIN:		2.0	3.2	.9	0.01	<0.01	0.1	0.009	0.01	139	0.06	0.01	0.01	0.04	<0.005	0.005
	MEAN:	0.00	9.4	7.3	2.1	0.06	0.02	0.32	0.023	0.036	167.	0.11	0.01	0.016	0.057	0.005	0.006
	N:	0	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
04 BEL MILLTN	MAX:	11300.	20.0	256.	26.5	0.18	0.05	1.3	0.19	0.27	168	2.54	0.12	0.22	0.49	<0.005	0.020
	MIN:	1020.	0.0	1.1	.8	<0.01	<0.01	0.1	0.005	0.01	76	0.03	<0.01	<0.005	0.02	<0.005	0.001
	MEAN:	3594.00	9.4	24.9	3.8	0.04	0.02	0.29	0.024	0.036	128.	0.32	0.02	0.029	0.076	0.005	0.005
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
05 ABV MSLA	MAX:	2320.	21.5	15.8	5.6	0.12	0.02	0.5	0.050	0.080	168	0.15	0.01	0.06	0.05	<0.005	0.006
	MIN:	1020.	1.5	3.4	1.1	0.01	<0.01	0.1	0.005	<0.01	132	0.05	0.01	<0.005	0.02	<0.005	0.003
	MEAN:	1678.00	10.0	7.6	2.2	0.03	0.01	0.28	0.015	0.025	152.	0.10	0.01	0.022	0.032	0.005	0.004
	N:	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
06 ABV STP	MAX:	11300.	21.9	269.	27.9	0.18	0.03	1.3	0.19	0.25	165	2.62	0.12	0.24	0.48	<0.005	0.019
	MIN:	1020.	0.0	0.7	0.7	<0.01	0.01	0.01	0.001	0.009	68	0.02	0.01	<0.005	0.008	<0.005	0.002
	MEAN:	3594.00	9.9	23.7	3.7	0.03	0.01	0.29	0.021	0.033	121.	0.30	0.02	0.038	0.065	0.005	0.005
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
07 STP EFFLNT	MAX:	13.30	18.4	54.8	48.2	9.77	19.3	33.	8.30	9.93	174	0.18	0.03	0.111	0.03	<0.005	0.003
	MIN:	9.59	11.0	4.5	4.5	0.01	0.81	2.30	0.49	1.2	149	0.03	<0.01	0.033	<0.005	<0.005	0.001
	MEAN:	11.88	14.4	20.2	18.0	2.84	8.86	13.41	4.433	5.496	165.	0.09	0.02	0.065	0.016	0.005	0.001
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
08 BEL STP	MAX:	2330.	21.3	15.7	4.5	1.14	4.20	5.0	1.07	1.25	166	0.22	0.02	0.031	0.06	0.005	0.006
	MIN:	1030.	4.0	4.8	1.4	0.02	0.38	0.8	0.26	0.34	131	0.05	<0.01	<0.005	0.02	0.005	0.003
	MEAN:	1688.00	11.3	8.7	3.1	0.35	1.80	2.68	0.737	0.830	149.	0.10	0.01	0.019	0.032	0.005	0.004
	N:	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
09 SHUFFIELDS	MAX:	11310.	21.4	254.	27.2	0.25	0.11	1.6	0.19	0.26	165	2.69	0.12	0.22	0.48	<0.005	0.020
	MIN:	1030.	0.0	1.2	.9	<0.01	<0.01	0.1	0.019	0.03	71	0.02	<0.01	<0.005	0.009	<0.005	0.001
	MEAN:	3604.00	10.2	23.5	3.8	0.05	0.04	0.36	0.044	0.058	121.	0.31	0.02	0.027	0.065	0.005	0.005
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 6

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

STATION		PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
01 TURAH	MAX:	8.40	8.37	410	12.5	3.6	15.2	6.1	6.1	47.6	0.047	0.0885	0.0008	0.010
	MIN:	7.85	7.95	311	9.10	<2.0	<5.0	6.1	6.1	47.6	0.008	0.0354	0.0001	0.002
	MEAN:	8.18	8.20	363.	10.99	2.3	8.8	6.1	6.1	47.6	0.0242	0.0531	0.0005	0.0046
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5
02 BLACKFOOT	MAX:	8.60	8.48	273	13.35	3.1	13.4	9.0	8.9	5.2	0.002	0.0146	0.0020	0.009
	MIN:	8.00	8.18	237	9.30	<2.0	<5.0	9.0	8.9	5.2	<0.001	0.0045	0.0001	<0.001
	MEAN:	8.31	8.35	256.	11.47	2.2	8.9	9.0	8.9	5.2	0.0016	0.0095	0.0008	0.0044
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5
03 IN MILLTWN	MAX:	8.35	8.23	397	11.6	<2.0	13.2	7.0	6.8	44.1				
	MIN:	7.80	8.08	310	8.20	<2.0	<5.0	7.0	6.8	44.1				
	MEAN:	8.05	8.16	359.	10.06	2.0	8.4	7.0	6.8	44.1	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
04 BEL MILLTN	MAX:	8.40	8.56	351	12.40	2.2	9.2	6.8	6.1	25.9	0.015	0.0299	0.0008	0.039
	MIN:	8.15	8.22	276	8.95	<2.0	<5.0	6.8	6.1	25.9	0.005	0.0155	0.0002	0.002
	MEAN:	8.26	8.36	317.	10.93	2.0	7.5	6.8	6.1	25.9	0.0090	0.0234	0.0005	0.0106
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5
05 ABV MSLA	MAX:	8.60	8.76	349	12.95	2.5	9.6	6.9	6.7	24.0				
	MIN:	8.30	8.28	266	9.40	<2.0	<5.	6.9	6.7	24.0				
	MEAN:	8.49	8.47	316.	11.43	2.2	6.7	6.9	6.7	24.0	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
06 ABV STP	MAX:	8.80	8.84	342	13.25	2.6	13.6	7.6	6.6	23.6	0.020	0.0334	0.0016	0.019
	MIN:	8.35	8.37	260	9.40	<2.0	<5.	7.6	6.6	23.6	0.006	0.0146	0.0003	0.003
	MEAN:	8.57	8.54	310.	11.54	2.1	6.7	7.6	6.6	23.6	0.0112	0.0221	0.0007	0.0062
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5
07 STP EFFLNT	MAX:	7.60	7.66	764	6.7	55.7	115.	27.5	25.7	29.4	0.033	0.0890	0.0047	0.058
	MIN:	7.20	6.91	525	5.05	9.8	28.4	27.5	25.7	29.4	0.013	0.0573	0.0004	0.003
	MEAN:	7.37	7.17	695.	5.97	32.6	67.3	27.5	25.7	29.4	0.0224	0.0765	0.0023	0.0200
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5
08 BEL STP	MAX:	8.65	8.63	413	12.55	10.5	21.6	11.3	10.6	24.5				
	MIN:	7.75	7.25	278	9.10	3.3	9.0	11.3	10.6	24.5				
	MEAN:	8.18	7.87	358.	10.86	5.8	14.1	11.3	10.6	24.5	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
09 SHUFFIELDS	MAX:	8.80	8.78	344	13.5	2.5	11.8	8.4	6.4	23.3	0.018	0.0613	0.0017	0.008
	MIN:	8.40	8.25	265	9.25	<2.0	<5.	8.4	6.4	23.3	0.007	0.0255	0.0005	0.003
	MEAN:	8.60	8.49	317.	11.47	2.1	6.5	8.4	6.4	23.3	0.0120	0.0383	0.0010	0.0058
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 6

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

STATION		FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTL P	HRD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
10 BITTERROOT	MAX:	11390.	21.6	116.	12.5	0.20	0.04	0.7	0.048	0.09	95	1.11	<0.01	0.01	0.07	<0.005	0.003
	MIN:	250.	0.0	1.1	0.6	0.01	<0.01	0.1	<0.003	0.003	12	0.04	<0.01	<0.005	<0.005	<0.005	<0.001
	MEAN:	3275.80	10.4	16.6	3.1	0.06	0.01	0.25	0.013	0.022	47.	0.18	0.01	0.005	0.016	0.005	0.001
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
11 HARPER BR	MAX:	21400.	19.8	175.	19.7	0.22	0.04	1.0	0.10	0.17	129	1.68	0.06	0.12	0.28	<0.005	0.01
	MIN:	1480.	0.0	2.5	0.9	0.01	0.01	0.1	0.009	0.01	50	0.04	<0.01	<0.005	0.006	<0.005	<0.001
	MEAN:	6886.00	10.8	19.7	3.4	0.06	0.02	0.32	0.023	0.038	97.	0.21	0.01	0.016	0.040	0.005	0.003
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
12 CHAMP 001	MAX:	28.96	34.2	206.	206.	0.01	6.43	26.5	2.43	7.01	165	0.34	<0.01	0.063	0.69	<0.005	0.007
	MIN:	0.0	13.0	103.2	93.7	0.01	2.22	19.	1.10	3.38	165	0.33	<0.01	0.038	0.69	<0.005	0.002
	MEAN:	9.81	20.0	148.0	139.0	0.01	5.05	22.08	1.924	4.702	165.	0.33	0.01	0.046	0.690	0.005	0.004
	N:	5	5	5	5	5	5	5	5	5	1	2	5	5	2	5	5
12 CHAMP 003	MAX:	48.12	22.5	177.2	177.2	0.81	8.6	34.	3.16	4.30	217	0.76	<0.01	0.13	8.0	0.008	0.009
	MIN:	0.0	0.0	33.1	31.8	<0.01	2.3	7.0	0.44	1.0	128	0.34	<0.01	0.017	0.68	<0.005	0.001
	MEAN:	12.76	12.3	95.5	90.7	0.05	4.52	16.52	1.601	3.213	174.	0.45	0.01	0.040	1.334	0.005	0.004
	N:	23	22	23	23	23	22	23	22	23	9	15	19	19	15	19	21
13 MARCURE	MAX:	4060.	19.3	19.9	5.5	0.15	0.13	0.8	0.067	0.103	131	0.23	<0.01	0.016	0.12	0.006	0.005
	MIN:	1480.	4.0	2.9	0.9	0.04	0.01	0.1	0.023	0.03	102	0.06	<0.01	<0.005	0.05	<0.005	0.002
	MEAN:	2773.00	10.7	9.1	2.3	0.07	0.05	0.42	0.035	0.048	122.	0.13	0.01	0.009	0.085	0.005	0.003
	N:	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
14 FRENCHTOWN	MAX:	3170.	21.0	19.7	5.4	0.15	0.03	4.3	0.061	0.092	131	0.18	<0.01	0.014	0.08	<0.005	0.004
	MIN:	1480.	5.0	3.5	1.0	0.03	<0.01	0.1	0.016	0.02	104	0.04	<0.01	<0.005	0.02	<0.005	0.002
	MEAN:	2445.00	12.8	8.7	2.3	0.07	0.02	1.32	0.032	0.044	122.	0.10	0.01	0.007	0.043	0.005	0.003
	N:	3	4	4	4	4	4	4	4	4	4	3	4	4	3	4	4
15 HUSON	MAX:	21480.	21.1	246.	22.8	0.23	0.08	1.2	0.17	0.21	130	2.36	0.08	0.15	0.32	0.005	0.010
	MIN:	1480.	0.0	1.8	0.4	0.01	<0.01	0.1	0.010	0.02	43	0.04	<0.01	0.005	0.02	0.005	0.001
	MEAN:	6896.44	10.9	27.0	4.0	0.06	0.02	0.35	0.030	0.047	95.	0.29	0.01	0.018	0.057	0.005	0.003
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
16 9-MILE	MAX:	3980.	20.6	23.5	5.1	0.14	0.02	0.7	0.054	0.093	129	0.22	<0.01	0.020	0.09	0.005	0.004
	MIN:	3980.	3.0	2.3	1.1	<0.01	<0.01	0.1	0.014	0.01	105	0.04	<0.01	<0.005	0.02	0.005	0.002
	MEAN:	3980.00	10.3	10.2	2.4	0.06	0.01	0.42	0.024	0.042	121.	0.13	0.01	0.009	0.052	0.005	0.003
	N:	1	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
17 ABV ALBERT	MAX:		20.9	23.8	5.7	0.16	0.07	0.6	0.053	0.093	128	0.24	<0.01	0.020	0.09	0.005	0.004
	MIN:		3.0	1.7	1.1	<0.01	<0.01	0.1	0.013	0.01	106	0.04	<0.01	0.005	0.01	0.005	0.002
	MEAN:	0.00	10.4	9.2	2.2	0.06	0.02	0.38	0.023	0.037	120.	0.12	0.01	0.009	0.045	0.005	0.003
	N:	0	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 6

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

STATION		PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
10 BITTERROOT	MAX:	8.60	8.52	202	12.6	<2.0	11.5	5.9	5.8	5.3	0.005	0.049	0.0033	0.014
	MIN:	8.05	8.04	130	9.55	<2.0	<5.0	5.9	5.8	5.3	<0.001	0.0060	0.0002	0.005
	MEAN:	8.30	8.18	155.	11.31	2.0	7.1	5.9	5.8	5.3	0.0030	0.0173	0.0014	0.0096
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5
11 HARPER BR	MAX:	8.60	8.66	275	13.7	2.3	12.0	18.	17.	16.1	0.012	0.0427	0.0028	0.016
	MIN:	8.30	8.19	229	8.20	<2.0	<5.	3.6	3.6	16.1	0.006	0.0231	0.0002	0.003
	MEAN:	8.46	8.40	258.	10.80	2.1	6.4	9.2	8.6	16.1	0.0098	0.0281	0.0013	0.0070
	N:	5	5	5	5	5	5	4	4	1	5	5	5	5
12 CHAMP 001	MAX:	8.40	8.02	2810		134.	871.	1230.	1230.	677.				
	MIN:	8.40	8.02	2810		134.	871.	1230.	1230.	677.				
	MEAN:	8.40	8.02	2810.	0.00	134.0	871.0	1230.0	1230.0	677.0	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	0	1	1	1	1	1	0	0	0	0
12 CHAMP 003	MAX:	8.40	8.05	3154		113.	852.	1640.	1510.		0.012	0.0618	0.063	0.017
	MIN:	7.67	7.39	2528		34.1	567.	787.	755.		<0.001	0.0329	0.0015	0.009
	MEAN:	8.10	7.79	2842.	0.00	63.8	742.2	1167.0	1132.0	0.0	0.0054	0.0486	0.0147	0.0118
	N:	5	4	4	0	5	4	5	5	0	5	5	5	5
13 MARCURE	MAX:	8.55	8.45	322	12.3	2.5	18.4	29.	28.	16.0				
	MIN:	8.30	8.06	246	7.40	<2.0	<5.0	11.8	12.2	16.0				
	MEAN:	8.42	8.26	292.	10.01	2.1	10.4	19.2	18.2	16.0	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	5	5	1	0	0	0	0
14 FRENCHTOWN	MAX:	8.60	8.44	296	11.20	2.5	11.0	23.	22.	17.7				
	MIN:	8.05	8.05	232	7.15	<2.0	<5.0	9.7	9.3	17.7				
	MEAN:	8.35	8.22	273.	9.80	2.1	6.7	14.5	14.4	17.7	0.0000	0.0000	0.0000	0.0000
	N:	4	4	4	4	4	4	3	3	1	0	0	0	0
15 HUSON	MAX:	8.60	8.44	293	12.0	2.5	11.5	21.	20.	16.1	0.028	0.0574	0.0043	0.043
	MIN:	8.05	8.09	240	7.40	<2.0	<5.	8.5	8.4	16.1	0.004	0.0149	0.0002	0.003
	MEAN:	8.29	8.24	273.	9.86	2.1	6.3	12.4	11.9	16.1	0.0106	0.0286	0.0017	0.0122
	N:	5	5	5	5	5	5	5	5	1	5	5	5	5
16 9-MILE	MAX:	8.60	8.41	292	12.1	2.9	13.3	9.1	8.4	15.7				
	MIN:	8.00	8.09	244	7.55	<2.0	<5.	9.1	8.4	15.7				
	MEAN:	8.27	8.23	271.	10.28	2.2	6.8	9.1	8.4	15.7	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
17 ABV ALBERT	MAX:	8.75	8.64	290	12.5	2.7	15.3	9.3	8.9	15.5				
	MIN:	8.15	8.10	248	8.10	<2.0	<5.	9.3	8.9	15.5				
	MEAN:	8.34	8.30	271.	10.78	2.1	7.6	9.3	8.9	15.5	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 6

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

STATION		FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTL P	HRD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
18 TARKIO	MAX:		19.6	20.0	5.2	0.12	<0.01	0.6	0.049	0.110	123	0.20	<0.01	0.024	0.07	0.006	0.004
	MIN:		4.0	3.0	1.3	<0.01	<0.01	0.1	0.007	0.019	103	0.03	<0.01	<0.005	0.01	<0.005	0.002
	MEAN:	0.00	10.9	8.3	2.3	0.04	0.01	0.34	0.021	0.040	117.	0.10	0.01	0.010	0.032	0.005	0.003
	N:	0	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
19 LOZEAU	MAX:		19.2	19.8	5.2	0.12	<0.01	0.6	0.046	0.083	124	0.19	<0.01	0.02	0.07	0.006	0.004
	MIN:		5.0	2.5	1.2	<0.01	<0.01	0.1	0.004	0.01	103	0.03	<0.01	<0.005	0.005	0.005	0.002
	MEAN:	0.00	10.8	8.2	2.2	0.04	0.01	0.38	0.018	0.033	118.	0.10	0.01	0.012	0.039	0.005	0.003
	N:	0	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
20 SUPERIOR	MAX:		20.5	20.1	5.2	0.11	0.02	0.6	0.044	0.079	123	0.19	<0.01	0.019	0.07	0.006	0.003
	MIN:		0.0	2.2	1.2	<0.01	<0.01	0.1	0.001	0.019	103	0.03	<0.01	<0.005	0.005	<0.005	0.002
	MEAN:	0.00	8.9	6.7	2.1	0.04	0.01	0.32	0.015	0.030	116.	0.08	0.01	0.008	0.027	0.005	0.002
	N:	0	6	6	6	6	6	6	6	6	5	5	6	6	5	6	6
21 BEL ST REG	MAX:	24400.	20.7	220.	21.2	0.17	0.03	1.1	0.096	0.16	123	1.92	0.05	0.08	0.28	0.008	0.004
	MIN:	2140.	0.0	1.1	0.6	0.01	0.01	0.1	<0.001	0.009	42	0.02	<0.01	<0.005	<0.005	<0.005	0.001
	MEAN:	8804.80	10.7	22.4	3.4	0.04	0.01	0.29	0.018	0.034	87.	0.22	0.01	0.011	0.036	0.005	0.002
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
22 ABV FLATHD	MAX:	4630.	18.9	15.6	4.3	0.03	0.13	0.4	0.024	0.059	118	0.11	<0.01	0.01	0.05	0.007	0.003
	MIN:	2110.	4.0	1.8	0.6	<0.01	<0.01	0.1	0.001	0.01	100	0.03	<0.01	<0.005	<0.005	<0.005	0.002
	MEAN:	3482.00	10.3	5.8	1.8	0.02	0.03	0.24	0.008	0.025	111.	0.05	0.01	0.007	0.024	0.005	0.002
	N:	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
23 FLATHEAD R	MAX:	23400.	23.6	20.4	3.6	0.03	0.09	0.5	0.010	0.023	91	0.11	<0.01	0.043	0.01	0.005	<0.001
	MIN:	5390.	0.0	0.8	.5	0.01	<0.01	0.1	<0.001	0.002	79	0.02	<0.01	<0.005	0.005	0.005	<0.001
	MEAN:	10750.00	11.6	5.1	1.3	0.02	0.01	0.16	0.003	0.010	86.	0.04	0.01	0.007	0.007	0.005	0.001
	N:	25	25	24	24	25	25	25	25	25	10	15	21	21	15	21	23
24 PLAINS	MAX:	14300.	22.3	14.9	2.8	0.02	<0.01	0.2	0.010	0.04	101	0.13	<0.01	<0.005	0.02	0.006	<0.001
	MIN:	11000.	3.5	1.9	0.8	0.01	<0.01	0.1	<0.001	0.007	90	0.03	<0.01	<0.005	<0.005	<0.005	<0.001
	MEAN:	12260.00	11.5	5.3	1.4	0.02	0.01	0.14	0.004	0.019	94.	0.06	0.01	0.005	0.009	0.005	0.001
	N:	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
25 ABV T FALL	MAX:	42900.	22.0	137.	13.4	0.06	0.03	0.8	0.075	0.12	101	1.40	0.03	0.09	0.21	0.006	0.004
	MIN:	9070.	0.0	0.8	0.4	<0.01	<0.01	0.1	<0.001	<0.001	58	0.01	<0.01	<0.005	0.002	<0.005	<0.001
	MEAN:	19742.80	11.5	14.5	2.4	0.02	0.01	0.23	0.009	0.020	83.	0.16	0.01	0.015	0.025	0.005	0.001
	N:	25	25	25	25	25	25	25	25	25	10	15	21	21	15	21	23
26 IN T FALLS	MAX:		22.8	6.9	1.6	<0.01	<0.01	0.2	0.007	0.022	121	0.12	<0.01	0.027	0.02	0.008	0.001
	MIN:		4.0	1.0	0.4	<0.01	<0.01	0.1	<0.001	<0.01	88	0.02	<0.01	<0.005	<0.005	<0.005	0.001
	MEAN:	0.00	12.0	3.9	1.0	0.01	0.01	0.14	0.003	0.014	98.	0.05	0.01	0.010	0.011	0.006	0.001
	N:	0	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 6

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

STATION		PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
18 TARKIO	MAX:	8.55	8.52	284	12.6	2.6	11.4	8.4	8.4	14.4				
	MIN:	8.00	8.20	226	8.10	<2.0	<5.	8.4	8.4	14.4				
	MEAN:	8.36	8.34	261.	10.67	2.2	6.4	8.4	8.4	14.4	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
19 LOZEAU	MAX:	8.55	8.49	284	13.1	3.6	8.0	8.6	8.7	13.4				
	MIN:	8.25	8.13	225	8.40	<2.0	<5.	8.6	8.7	13.4				
	MEAN:	8.43	8.34	262.	10.56	2.3	5.6	8.6	8.7	13.4	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
20 SUPERIOR	MAX:	8.67	8.65	279	13.3	2.6	9.6	8.4	9.0	13.5				
	MIN:	7.95	8.05	220	7.85	<2.0	<5.	8.4	9.0	13.5				
	MEAN:	8.36	8.33	256.	10.55	2.1	6.2	8.4	9.0	13.5	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
21 BEL ST REG	MAX:	8.75	8.66	273	12.45	3.0	7.7	7.2	7.4	12.6	0.010	0.0433	0.0056	0.023
	MIN:	8.15	8.09	224	9.05	<2.0	<5.	7.2	7.4	12.6	0.002	0.0115	0.0001	0.002
	MEAN:	8.39	8.34	253.	10.86	2.2	5.5	7.2	7.4	12.6	0.0070	0.0221	0.0018	0.0098
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5
22 ABV FLATHD	MAX:	8.45	8.56	270	12.5	2.7	11.3	7.0	6.6	11.5				
	MIN:	8.10	8.17	220	7.50	<2.0	<5.	7.0	6.6	11.5				
	MEAN:	8.29	8.37	250.	10.40	2.1	6.3	7.0	6.6	11.5	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
23 FLATHEAD R	MAX:	8.80	8.89	184	12.70	<2.0	<5.	0.5	0.5	3.2	0.004	0.0140	0.0012	0.009
	MIN:	8.05	8.26	152	10.40	<2.0	<5.	0.5	0.5	3.2	<0.001	0.0054	0.0001	0.003
	MEAN:	8.55	8.49	170.	11.69	2.0	5.0	0.5	0.5	3.2	0.0026	0.0104	0.0006	0.0054
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5
24 PLAINS	MAX:	8.45	8.48	213	13.2	2.2	<5.	2.0	1.9	4.4				
	MIN:	8.20	8.18	177	7.90	<2.0	<5.	2.0	1.9	4.4				
	MEAN:	8.34	8.37	196.	10.65	2.0	5.0	2.0	1.9	4.4	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
25 ABV T FALL	MAX:	8.60	8.64	213	13.0	<2.0	<5.	2.2	2.4	4.2	0.035	0.0244	0.0019	0.011
	MIN:	8.25	8.26	184	8.10	<2.0	<5.	2.2	2.4	4.2	0.001	0.0068	0.0001	0.002
	MEAN:	8.45	8.39	196.	11.07	2.0	5.0	2.2	2.4	4.2	0.0092	0.0120	0.0011	0.0068
	N:	5	5	5	5	5	5	1	1	1	5	5	5	5
26 IN T FALLS	MAX:	8.45	8.47	216	12.6	<2.0	5.2	2.0	1.9	4.0				
	MIN:	8.23	8.25	175	7.80	<2.0	<5.	2.0	1.9	4.0				
	MEAN:	8.37	8.39	196.	10.57	2.0	5.0	2.0	1.9	4.0	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 6

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

STATION		FLOW (CFS)	T (C)	TSS	VOL TSS	NO3+ NO2 N	NH3 N	KJLD N	ORTHO P	TOTL P	HRD	FE T.R.	CU T.R.	ZN T.R.	MN T.R.	CD T.R.	AS T.R.
27 BEL T FALL	MAX:	42376.	23.1	61.1	7.0	0.07	0.03	0.6	0.031	0.07	100	0.60	<0.01	0.03	0.09	0.006	0.008
	MIN:	9031.	0.0	0.8	0.4	<0.01	<0.01	0.1	<0.001	0.001	56	<0.01	<0.01	<0.005	0.005	<0.005	<0.001
	MEAN:	21108.08	11.2	11.9	2.1	0.02	0.01	0.21	0.008	0.018	82.	0.11	0.01	0.007	0.018	0.005	0.001
	N:	25	24	25	25	24	25	25	25	25	10	15	21	21	15	21	23
28 IN NOXON	MAX:		24.0	11.3	2.0	0.04	0.02	0.2	0.006	0.020	106	0.14	<0.01	<0.005	0.02	<0.005	0.001
	MIN:		4.0	1.2	.5	0.01	0.01	0.1	<0.001	<0.01	88	0.02	<0.01	<0.005	0.005	<0.005	0.001
	MEAN:	0.00	12.5	3.5	1.1	0.02	0.01	0.12	0.003	0.013	94.	0.06	0.01	0.005	0.010	0.005	0.001
	N:	0	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
29 BEL NOXON	MAX:	45600.	22.1	9.9	2.9	0.08	0.03	0.4	0.023	0.03	100	0.13	<0.01	0.02	0.03	<0.005	0.002
	MIN:	7230.	0.0	0.2	0.2	<0.01	<0.01	0.1	<0.001	<0.001	61	0.01	<0.01	<0.005	<0.005	<0.005	<0.001
	MEAN:	20701.20	11.3	2.7	1.0	0.03	0.01	0.15	0.005	0.012	80.	0.04	0.01	0.006	0.014	0.005	0.001
	N:	25	24	25	25	25	25	25	25	25	10	15	21	21	15	21	23
30 IN CAB GOR	MAX:		23.0	1.9	1.4	0.04	<0.01	0.2	0.003	0.013	98	0.07	<0.01	0.123	0.02	<0.005	0.002
	MIN:		3.0	0.7	.5	<0.01	<0.01	0.1	<0.001	0.009	82	0.02	<0.01	<0.005	0.007	<0.005	0.001
	MEAN:	0.00	11.4	1.4	0.9	0.02	0.01	0.14	0.002	0.010	90.	0.03	0.01	0.029	0.014	0.005	0.001
	N:	0	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5
31 BEL CAB GO	MAX:	51800.	21.5	8.7	2.9	0.06	0.09	0.4	0.016	0.03	98	0.12	<0.01	0.009	0.02	<0.005	0.002
	MIN:	8810.	0.0	0.4	0.4	0.01	<0.01	0.1	<0.001	<0.001	62	0.01	<0.01	<0.005	0.005	<0.005	<0.001
	MEAN:	24475.00	11.4	2.8	1.1	0.02	0.02	0.17	0.004	0.011	79.	0.04	0.01	0.006	0.011	0.005	0.001
	N:	24	23	24	24	24	24	24	24	24	9	14	20	20	14	20	22

NOTE: ALL VALUES ARE IN MG/L EXCEPT FLOW(CFS) AND TEMPERATURE(DEG. C). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 6

SHALLOW-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

STATION		PH FLD	PH LAB	SPEC COND	D.O.	BOD5	COD	COLOR NAT	COLOR PH AD	SO4	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
27 BEL T FALL	MAX:	8.70	8.50	211	12.7	<2.0	<5.	1.9	1.9	4.0	0.005	0.0197	0.0022	0.014
	MIN:	8.27	8.24	175	8.30	<2.0	<5.	1.9	1.9	4.0	0.001	0.0045	0.0003	0.002
	MEAN:	8.45	8.42	196.	10.44	2.0	5.0	1.9	1.9	4.0	0.0026	0.0096	0.0009	0.0070
	N:	5	5	5	6	5	5	1	1	1	5	5	5	5
28 IN NOXON	MAX:	8.60	8.56	221	12.5	<2.0	<5.	1.8	1.9	4.0				
	MIN:	8.05	8.17	176	8.55	<2.0	<5.	1.8	1.9	4.0				
	MEAN:	8.32	8.36	195.	10.61	2.0	5.0	1.8	1.9	4.0	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
29 BEL NOXON	MAX:	8.35	8.33	207	12.20	<2.0	<5.	0.5	0.3	4.0	0.005	0.0138	0.0012	0.010
	MIN:	8.00	8.15	174	6.45	<2.0	<5.	0.5	0.3	4.0	<0.001	0.0041	0.0001	0.003
	MEAN:	8.18	8.21	189.	9.36	2.0	5.0	0.5	0.3	4.0	0.0020	0.0076	0.0007	0.0062
	N:	5	5	5	6	5	5	1	1	1	5	5	5	5
30 IN CAB GOR	MAX:	8.40	8.43	206	12.9	<2.0	<5.	1.7	1.5	4.0				
	MIN:	8.04	8.14	170	7.70	<2.0	<5.	1.7	1.5	4.0				
	MEAN:	8.18	8.25	187.	10.33	2.0	5.0	1.7	1.5	4.0	0.0000	0.0000	0.0000	0.0000
	N:	5	5	5	5	5	5	1	1	1	0	0	0	0
31 BEL CAB GO	MAX:	8.25	8.48	205	12.85	<2.0	<5.0			4.4	0.004	0.0275	0.0096	0.051
	MIN:	8.10	8.11	171	7.85	<2.0	<5.0			4.4	0.001	0.0050	0.0004	0.001
	MEAN:	8.19	8.27	185.	9.53	2.0	5.0	0.0	0.0	4.4	0.0022	0.0134	0.0026	0.0138
	N:	4	4	4	5	4	4	0	0	1	5	5	5	5

NOTE: ALL VALUES ARE IN MG/L EXCEPT PH(STANDARD UNITS), S.C.(UMHOS/CM), AND COLOR(COLOR UNITS). A.S. MEANS ACID SOLUBLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 6

STATION
11

Table 7.A. Results of Organic* Analysis of Clark Fork River and Champion Wastewater Samples, Fall 1984

Sample Number
CLARK FORK
AT HARPER BR.
9-13-85

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: USEPA REGION 8 Case No: —
Lab Sample ID No: CHAMPION INTERNATIONAL QC Report No:
Sample Matrix: AQUEOUS Contract No.:
Data Release Authorized By: A. CURTIS Date Sample Received: 11-29-84

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW MEDIUM HIGH (circle one)
DATE EXTRACTED/PREPARED: 12-6-84
DATE ANALYZED: 12-6-84
PERCENT MOISTURE: —
CONC/DILUTION FACTOR: 1000

PP #	CAS #		ug/l or ug/kg (circle one)
(21A)	88-06-2	2,4,6-trichlorophenol	< 2
(22A)	59-50-7	p-chloro-m-cresol	
(24A)	95-57-8	2-chlorophenol	
(31A)	120-83-2	2,4-dichlorophenol	
(34A)	105-67-9	2,4-dimethylphenol	
(57A)	88-75-5	2-nitrophenol	
(58A)	100-02-7	4-nitrophenol	
(59A)	51-28-5	2,4-dinitrophenol	
(60A)	534-52-1	4,6-dinitro-2-methylphenol	
(64A)	87-86-5	pentachlorophenol	
(65A)	108-95-2	phenol	
	65-85-0	benzoic acid	
	95-48-7	2-methylphenol	
	108-39-4	4-methylphenol	
	95-95-4	2,4,5-trichlorophenol	
(1B)	83-32-9	acenaphthene	
(5B)	92-87-5	benzidine	
(8B)	120-82-1	1,2,4-trichlorobenzene	
(9B)	118-74-1	hexachlorobenzene	
(12B)	67-72-1	hexachloroethane	
(18B)	111-44-4	bis(2-chloroethyl)ether	
(20B)	91-58-7	2-chloronaphthalene	
(25B)	95-50-1	1,2-dichlorobenzene	
(26B)	541-73-1	1,3-dichlorobenzene	
(27B)	106-46-7	1,4-dichlorobenzene	
(28B)	91-94-1	3,3'-dichlorobenzidine	
(35B)	121-14-2	2,4-dinitrotoluene	
(36B)	606-20-2	2,6-dinitrotoluene	
(37B)	122-66-7	1,2-diphenylhydrazine	
(39B)	206-44-0	fluoranthene	
(40B)	7005-72-3	4-chlorophenyl phenyl ether	
(41B)	101-55-3	4-bromophenyl phenyl ether	
(42B)	39638-32-9	bis (2-chloroisopropyl) ether	
(43B)	111-91-1	bis (2-chloroethoxy) methane	

PP #	CAS #		ug/l or ug/kg (circle one)
(52B)	87-68-3	hexachlorobutadiene	< 2
(53B)	77-47-4	hexachlorocyclopentadiene	
(54B)	78-59-1	isophorone	
(55B)	91-20-3	naphthalene	
(56B)	98-95-3	nitrobenzene	
(61B)	62-75-9	N-nitrosodimethylamine	
(62B)	86-30-6	N-nitrosodiphenylamine	
(63B)	621-64-7	N-nitrosodipropylamine	
(66B)	117-81-7	bis (2-ethylhexyl) phthalate	2.5
(67B)	85-68-7	benzyl butyl phthalate	< 2
(68B)	84-74-2	di-n-butyl phthalate	
(69B)	117-84-0	di-n-octyl phthalate	
(70B)	84-66-2	diethyl phthalate	
(71B)	131-11-3	dimethyl phthalate	
(72B)	56-55-3	benzo(a)anthracene	
(73B)	50-32-8	benzo(a)pyrene	
(74B)	205-99-2	benzo(b)fluoranthene	
(75B)	207-08-9	benzo(k)fluoranthene	
(76B)	218-01-9	chrysene	
(77B)	208-96-3	acenaphthylene	
(78B)	120-12-7	anthracene	
(79B)	191-24-2	benzo(ghi)perylene	
(80B)	86-73-7	fluorene	
(81B)	85-01-8	phenanthrene	
(82B)	53-70-3	dibenzo(a,h)anthracene	
(83B)	193-39-5	indeno(1,2,3-cd)pyrene	
(84B)	129-00-0	pyrene	
	62-53-3	aniline	
	100-51-6	benzyl alcohol	
	106-47-8	4-chloroaniline	
	132-64-9	dibenzofuran	
	91-57-6	2-methylnaphthalene	
	88-74-4	2-nitroaniline	
	99-09-2	3-nitroaniline	
	100-01-6	4-nitroaniline	

'983

* Note: Volatile Compounds Not Analyzed

Table 7.A. Continued

STATION 11

Sample Number: CLARK FORK AT HARPER BR. 9-13-85

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: USEPA REGION 8 | Case No: —

Lab Sample ID No: CHAMPION INTERNATIONAL | QC Report No:

Sample Matrix: AQUEOUS | Contract No.:

Data Release Authorized By: A. CURTIS | Date Sample Received: 11-29-84

VOLATILES N/A

CONCENTRATION: LOW MEDIUM HIGH (circle one)

DATE EXTRACTED/PREPARED:

DATE ANALYZED:

PERCENT MOISTURE:

CONC./DILUTION FACTOR:

PP #	CAS #		ug/l or ug/kg (circle one)
(2V)	107-02-8	acrolein	
(3V)	107-13-1	acrylonitrile	
(4V)	71-43-2	benzene	
(6V)	56-23-5	carbon tetrachloride	
(7V)	108-90-7	chlorobenzene	
(10V)	107-06-2	1,2-dichloroethane	
(11V)	71-55-6	1,1,1-trichloroethane	
(13V)	75-34-3	1,1-dichloroethane	
(14V)	79-00-5	1,1,2-trichloroethane	
(15V)	79-34-5	1,1,2,2-tetrachloroethane	
(16V)	75-00-3	chloroethane	
(19V)	110-75-8	2-chloroethylvinyl ether	
(23V)	67-66-3	chloroform	
(29V)	75-35-4	1,1-dichloroethene	
(30V)	156-60-5	trans-1,2-dichloroethene	
(32V)	78-87-5	1,2-dichloropropane	
(33V)	10061-02-6	trans-1,3-dichloropropene	
	10061-01-05	cis-1,3-dichloropropene	
(38V)	100-41-4	ethylbenzene	
(44V)	75-09-2	methylene chloride	
(45V)	74-87-3	chloromethane	
(46V)	74-83-9	bromomethane	
(47V)	75-25-2	bromoform	
(48V)	75-27-4	bromodichloromethane	
(49V)	75-69-4	fluorotrichloromethane	
(50V)	75-71-8	dichlorodifluoromethane	
(51V)	124-48-1	chlorodibromomethane	
(85V)	127-18-4	tetrachloroethene	
(86V)	108-88-3	toluene	
(87V)	79-01-6	trichloroethene	
(88V)	75-01-4	vinyl chloride	
	67-64-1	acetone	
	78-93-3	2-butanone	
	75-15-0	carbondisulfide	
	519-78-6	2-hexanone	
	108-10-1	4-methyl-2-pentanone	
	100-42-5	styrene	
	108-05-4	vinyl acetate	
	1330-20-7	total xylenes	
		2-PENTANONE	

PESTICIDES

CONCENTRATION: LOW MEDIUM HIGH (circle one)

DATE EXTRACTED/PREPARED: 12-6-84

DATE ANALYZED: 12-6-84

PERCENT MOISTURE: —

CONC./DILUTION FACTOR: 1000

PP #	CAS #		ug/l or ug/kg (circle one)
(89P)	309-00-2	aldrin	<2
(90P)	60-57-1	dieldrin	
(91P)	57-74-9	chlordane	
(92P)	50-29-3	4,4'-DDT	
(93P)	72-55-9	4,4'-DDE	
(94P)	72-54-8	4,4'-DDD	
(95P)	115-29-7	α-endosulfan	
(96P)	115-29-7	β-endosulfan	
(97P)	1031-07-8	endosulfan sulfate	
(98P)	72-20-8	endrin	
(99P)	7421-93-4	endrin aldehyde	
(100P)	76-44-8	heptachlor	
(101P)	1024-57-3	heptachlor epoxide	
(102P)	319-84-6	α-BHC	
(103P)	319-85-7	β-BHC	
(104P)	319-86-8	δ-BHC	
(105P)	58-89-9	γ-BHC (lindane)	
(106P)	53469-21-9	PCB-1242	N/A
(107P)	11097-69-1	PCB-1254	
(108P)	11104-28-2	PCB-1221	
(109P)	11141-16-5	PCB-1232	
(110P)	12672-29-6	PCB-1248	
(111P)	11096-82-5	PCB-1260	
(112P)	12674-11-2	PCB-1016	
(113P)	8001-35-2	toxaphene	

DIOXINS N/A

CONCENTRATION: LOW MEDIUM HIGH (circle one)

DATE EXTRACTED/PREPARED:

DATE ANALYZED:

PERCENT MOISTURE:

CONC./DILUTION FACTOR:

PP #	CAS #		ug/l or ug/kg (circle one)
(129B)	1746-01-6	2,3,7,8-tetrachlorodibenzo-p-dioxin	

December 1983

Table 7.A. Continued

STATION
12

Sample Number
DISCHARGE 003 8-14-85

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: USEPA REGION 8   Case No: —
Lab Sample ID No: CHAMPION INTERNATIONAL   QC Report No:
Sample Matrix: AQUEOUS   Contract No.:
Data Release Authorized By: A. CURTIS   Date Sample Received: 11-29-84

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW MEDIUM HIGH (circle one)
DATE EXTRACTED/PREPARED: 12-6-84
DATE ANALYZED: 12-6-84
PERCENT MOISTURE: —
CONC./DILUTION FACTOR: 100

PP #	CAS #		ug/l or ug/kg (circle one)
(21A)	88-06-2	2,4,6- trichlorophenol	<20
(22A)	59-50-7	p-chloro-m-cresol	
(24A)	95-57-8	2- chlorophenol	
(31A)	120-83-2	2,4-dichlorophenol	
(34A)	105-67-9	2,4-dimethylphenol	
(57A)	88-75-5	2- nitrophenol	
(58A)	100-02-7	4-nitrophenol	
(59A)	51-28-5	2,4-dinitrophenol	
(60A)	534-52-1	4,6-dinitro-2-methylphenol	
(64A)	87-86-5	pentachlorophenol	
(65A)	108-95-2	phenol	
	65-85-0	benzoic acid	
	95-48-7	2-methylphenol	
	108-39-4	4-methylphenol	
	95-95-4	2,4,5-trichlorophenol	
(1B)	83-32-9	acenaphthene	
(5B)	92-87-5	benzidine	
(8B)	120-82-1	1,2,4-trichlorobenzene	
(9B)	118-74-1	hexachlorobenzene	
(12B)	67-72-1	hexachloroethane	
(18B)	111-44-4	bis(2-chloroethyl)ether	
(20B)	91-58-7	2-chloronaphthalene	
(25B)	95-50-1	1,2-dichlorobenzene	
(26B)	541-73-1	1,3-dichlorobenzene	
(27B)	106-46-7	1,4-dichlorobenzene	
(28B)	91-94-1	3,3'-dichlorobenzidine	
(35B)	121-14-2	2,4-dinitrotoluene	
(36B)	606-20-2	2,6-dinitrotoluene	
(37B)	122-66-7	1,2-diphenylhydrazine	
(39B)	206-44-0	fluoranthene	
(40B)	7005-72-3	4-chlorophenyl phenyl ether	
(41B)	101-55-3	4-bromophenyl phenyl ether	
(42B)	39638-32-9	bis (2-chloroisopropyl) ether	
(43B)	111-91-1	bis (2-chloroethoxy) methane	

PP #	CAS #		ug/l or ug/kg (circle one)
(52B)	87-68-3	hexachlorobutadiene	<20
(53B)	77-47-4	hexachlorocyclopentadiene	
(54B)	78-59-1	isophorone	
(55B)	91-20-3	naphthalene	
(56B)	98-95-3	nitrobenzene	
(61B)	62-75-9	N-nitrosodimethylamine	
(62B)	86-30-6	N-nitrosodiphenylamine	
(63B)	621-64-7	N-nitrosodipropylamine	
(66B)	117-81-7	bis (2-ethylhexyl) phthalate	
(67B)	85-68-7	benzyl butyl phthalate	
(68B)	84-74-2	di-n-butyl phthalate	
(69B)	117-84-0	di-n-octyl phthalate	
(70B)	84-66-2	diethyl phthalate	
(71B)	131-11-3	dimethyl phthalate	
(72B)	56-55-3	benzo(a)anthracene	
(73B)	50-32-8	benzo(a)pyrene	
(74B)	205-99-2	benzo(b)fluoranthene	
(75B)	207-08-9	benzo(k)fluoranthene	
(76B)	218-01-9	chrysene	
(77B)	208-96-8	acenaphthylene	
(78B)	120-12-7	anthracene	
(79B)	191-24-2	benzo(ghi)perylene	
(80B)	86-73-7	fluorene	
(81B)	85-01-8	phenanthrene	
(82B)	53-70-3	dibenzo(a,h)anthracene	
(83B)	193-39-5	indeno(1,2,3-cd)pyrene	
(84B)	129-00-0	pyrene	
	62-53-3	aniline	
	100-51-6	benzyl alcohol	
	106-47-8	4-chloroaniline	
	132-64-9	dibenzofuran	
	91-57-6	2-methylnaphthalene	
	88-74-4	2-nitroaniline	
	99-09-2	3-nitroaniline	
	100-01-6	4-nitroaniline	

1983

Table 7.A. Continued

STATION
12

Sample Number
DISCHARGE

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: USEPA REGION 8 Case No: — 003 8-11-85

Lab Sample ID No: CHAMPION INTERNATIONAL QC Report No: ____

Sample Matrix: AQUEOUS Contract No.: ____

Data Release Authorized By: A. CURTIS Date Sample Received: 11-29-84

VOLATILES N/A

CONCENTRATION: LOW MEDIUM HIGH (circle one)

DATE EXTRACTED/PREPARED: ____

DATE ANALYZED: ____

PERCENT MOISTURE: ____

CONC./DILUTION FACTOR: ____

PP #	CAS #		ug/l or ug/kg (circle one)
(2V)	107-02-8	acrolein	
(3V)	107-13-1	acrylonitrile	
(4V)	71-43-2	benzene	
(6V)	56-23-5	carbon tetrachloride	
(7V)	108-90-7	chlorobenzene	
(10V)	107-06-2	1,2-dichloroethane	
(11V)	71-55-6	1,1,1-trichloroethane	
(13V)	75-34-3	1,1-dichloroethane	
(14V)	79-00-5	1,1,2-trichloroethane	
(15V)	79-34-5	1,1,2,2-tetrachloroethane	
(16V)	75-00-3	chloroethane	
(19V)	110-75-8	2-chloroethylvinyl ether	
(23V)	67-66-3	chloroform	
(29V)	75-35-4	1,1-dichloroethene	
(30V)	156-60-5	trans-1,2-dichloroethene	
(32V)	78-87-5	1,2-dichloropropane	
(33V)	10061-02-6	trans-1,3-dichloropropene	
	10061-01-05	cis-1,3-dichloropropene	
(38V)	100-41-4	ethylbenzene	
(44V)	75-09-2	methylene chloride	
(45V)	74-87-3	chloromethane	
(46V)	74-83-9	bromomethane	
(47V)	75-25-2	bromoform	
(48V)	75-27-4	bromodichloromethane	
(49V)	75-69-4	fluorotrichloromethane	
(50V)	75-71-8	dichlorodifluoromethane	
(51V)	124-48-1	chlorodibromomethane	
(85V)	127-18-4	tetrachloroethene	
(86V)	108-88-3	toluene	
(87V)	79-01-6	trichloroethene	
(88V)	75-01-4	vinyl chloride	
	67-64-1	acetone	
	78-93-3	2-butanone	
	75-15-0	carbondisulfide	
	519-78-6	2-hexanone	
	108-10-1	4-methyl-2-pentanone	
	100-42-5	styrene	
	108-05-4	vinyl acetate	
	1330-20-7	total xylenes	
		2-PENTANONE	

PESTICIDES

CONCENTRATION: LOW MEDIUM HIGH (circle one)

DATE EXTRACTED/PREPARED: 12-6-84

DATE ANALYZED: 12-6-84

PERCENT MOISTURE: —

CONC./DILUTION FACTOR: 100

PP #	CAS #		ug/l or ug/kg (circle one)
(89P)	309-00-2	aldrin	<
(90P)	60-57-1	dieldrin	
(91P)	57-74-9	chlordane	
(92P)	50-29-3	4,4'-DDT	
(93P)	72-55-9	4,4'-DDE	
(94P)	72-54-8	4,4'-DDD	
(95P)	115-29-7	α-endosulfan	
(96P)	115-29-7	β-endosulfan	
(97P)	1031-07-8	endosulfan sulfate	
(98P)	72-20-8	endrin	
(99P)	7421-93-4	endrin aldehyde	
(100P)	76-44-8	heptachlor	
(101P)	1024-57-3	heptachlor epoxide	
(102P)	319-84-6	α-BHC	
(103P)	319-85-7	β-BHC	
(104P)	319-86-8	δ-BHC	
(105P)	58-89-9	γ-BHC (lindane)	
(106P)	53469-21-9	PCB-1242	N/A
(107P)	11097-69-1	PCB-1254	
(108P)	11104-28-2	PCB-1221	
(109P)	11141-16-5	PCB-1232	
(110P)	12672-29-6	PCB-1248	
(111P)	11096-82-5	PCB-1260	
(112P)	12674-11-2	PCB-1016	
(113P)	8001-35-2	toxaphene	

DIOXINS N/A

CONCENTRATION: LOW MEDIUM HIGH (circle one)

DATE EXTRACTED/PREPARED: ____

DATE ANALYZED: ____

PERCENT MOISTURE: ____

CONC./DILUTION FACTOR: ____

PP #	CAS #		ug/l or ug/kg (circle one)
(129B)	1746-01-6	2,3,7,8-tetrachlorodibenzo-p-dioxin	

December 1983

Environmental Protection Agency, CLP Sample Management Office,
P O Box 818, Alexandria, Virginia 22313 703 7 2490

Sample Number
DISCHARGE
003
STATION 12
8-14-85

Table 7.A. Continued

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.		ETHYLDIMETHYLBENZENE	A/B/N	10.95	16.5
2.		TRIMETHYLCYCLOPENTEN-1-ONE	"	11.92	26.8
3.		DECAHYDROTRIMETHYLMETHYLENE-1,4-	"	18.83	34.9
4.		METHANOAZULENE $C_{15}H_{24}$			
5.		1,4-DIMETHOXYANTHRACENE	"	28.85	340
6.		ISOPIMARIC ACID	"	31.27	57.1
7.		PIMARIC ACID	"	31.72	500
8.		DEHYDROABIETIC ACID	"	32.87	1030
9.		ERGOST-5-EN-3-OL $C_{28}H_{48}O$	"	41.98	345
10.		STIGMAST-5-EN-3-OL $C_{29}H_{50}O$	"	43.75	1130
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Table 7.A. Continued

PROJECT: CHAMPION INTERNATIONAL DATE: 12-11-84

SUBSTRATE: AQUEOUS

SPIKE LEVEL: CLARK FORK (CONTROL) 50 ug/l
DISCHARGE 003 500 ug/l

(% RECOVERY)

GC/MS FILE	SAMPLE	D6-PHENOL	2-FLUORO PHENOL	D10-PYRENE	2-FLUORO BIPHENYL	D5-NITRO[illegible]
9178	CLARK FORK (CONTROL)	+40.6	55.6	105	72.4	72.0
9179	DISCHARGE 003	58.6	58.6	104	82.2	68.6
USUM	$\bar{P}$	65.8	75.6	95.6	80.1	83.7
DATA	S.D.	9.7	11.8	8.3	10.3	10.6
BASE	$\bar{P} \pm 2SD$	46.4-85.3	52.1-99.2	79.0-112	59.5-101	62.4-10[illegible]
	$\bar{P} \pm 3SD$	36.6-95.0	40.4-111	70.7-121	49.1-111	51.8-116
	# OF DATA POINTS	49	49	49	49	49

+ = OUTSIDE THE 95% CONFIDENCE LIMITS, BUT WITHIN THE 99% LIMITS.

Table 7.B. Results of Organic* Analysis of Clark Fork River and Champion Wastewater Samples, Winter 1985

Environmental Protection Agency CLP Sample Management Office
P O Box 818 Alexandria Virginia 22313 703/557-2490

Sample Number
STATION 11

Organics Analysis Data Sheet
(Page 1)

Laboratory Name EPA REGION VIII
Lab Sample ID No Blank - Harpers Bridge MONTANA
Sample Matrix Water
Data Release Authorized By Tom K. McKenna

Case No
QC Report No
Contract No
Date Sample Received
DATE COLLECTED; 2-21-85

Volatile Compounds

Concentration Low Medium (Circle One)

Date Extracted/Prepared

Date Analyzed 3-13-85

Conc/Dil Factor pH

Percent Moisture

Percent Moisture (Decanted)

CAS Number		ug/l or ug/Kg (Circle One)
74 87 3	Chloromethane	<4
74-83 9	Bromomethane	
75 01-4	Vinyl Chloride	
75-00 3	Chloroethane	
75 09 2	Methylene Chloride	
67-64-1	Acetone	NA
75 15 0	Carbon Disulfide	<4
75 35-4	1 1-Dichloroethene	
75-34 3	1 1-Dichloroethane	
156 60 5	Trans 1 2-Dichloroethene	
67-66 3	Chloroform	
107-06 2	1 2-Dichloroethane	
78 93 3	2-Butanone	
71-55-6	1 1 1-Trichloroethane	
56-23 5	Carbon Tetrachloride	
108-05-4	Viny etate	
75 27-4	Bromodichloromethane	

CAS Number		ug/l or ug/Kg (Circle One)
79 34 5	1 1 2 2 Tetrachloroethane	<4
78 87 5	1 2-Dichloropropane	
10061-02 6	Trans 1 3 Dichloropropene	
79 01-6	Trichloroethene	
124-48 1	Dibromochloromethane	
79 00 5	1 1 2-Trichloroethane	
71-43 2	Benzene	
10061-01-5	cis 1 3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	NA
75 25 2	Bromoform	<4
591-78 6	2-Hexanone	
108 10 1	4-Methyl-2-Pentanone	
127-18-4	Tetrachloroethene	
108 88 3	Toluene	
108 90 7	Chlorobenzene	
100 41-4	Ethylbenzene	
100 42 5	Styrene	
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit report the value

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read U Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1 1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but

C This flag applies to pesticide parameters where the identification has been confirmed by GC MS. Single component pesticides ≥10 ng ul in the final extract should be confirmed by GC MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible probable blank contamination and warns the data user to take appropriate action

Other Other specific flags and footnotes may be required to properly define the results. If used they must be fully described and such description attached to the data summary report

*Note: Volatile Compounds Not Analyzed

Sample Number
STATION
2-21-85

Table 7.B. Continued

C. GC/MS ANALYSIS DATA SHEET - Page 3

: EPA REGION VIII Case No:

Bank - Harpers Bridge Tro.

B. Tentatively Identified Compounds

Library No → CAS #	Compound Name	Fraction	Scan No. or Retention Time	% Maximum Score Attained Mass Matching Routine: (Specify:)	Estimated Concentration (ug/L or ug/kg)
6926	NONANE, 3, 7-DIMETHYL		333	915	[illegible]

6/83

vironmental Protection Agency CLP Sample Management Office
O Box 818 Alexandria Virginia 22313 703/557-2490

Sample Number
STATION 12

Organics Analysis Data Sheet
(Page 1)

aboratory Name EPA REGION VIII

ab Sample ID No Montana Champion Valley Mall

ample Matrix Water 003 Discharge

ata Release Authorized By JOAN W. PIANHART

Case No

QC Report No

Contract No

Date Sample Received

DATE COLLECTED: 2/21/85

Volatile Compounds

Concentration Low Medium (Circle One)

Date Extracted/Prepared

Date Analyzed

Conc/Dil Factor pH

Percent Moisture

Percent Moisture (Decanted)

CAS Number		ug/l or ug/Kg (Circle One)
74 87 3	Chloromethane	< 4
74 83 9	Bromomethane	
75 01-4	Vinyl Chloride	
75 00 3	Chloroethane	
75 09 2	Methylene Chloride	
67-64-1	Acetone	NA
75 15-0	Carbon Disulfide	< 4
75 35-4	1 1-Dichloroethene	
75-34-3	1 1-Dichloroethane	
156 60 5	Trans 1 2-Dichloroethene	
67-66 3	Chloroform	
107-06 2	1 2-Dichloroethane	
78 93 3	2 Butanone	
71-55 6	1 1 1-Trichloroethane	
56 23 5	Carbon Tetrachloride	
108 05 4	Vinyl Acetate	
75-27-4	Bromodichloromethane	

CAS Number		ug/l or ug/Kg (Circle One)
79 34 5	1 1 2 2 Tetrachloroethane	< 4
78 87 5	1 2-Dichloropropane	
10061 02 6	Trans 1 3 Dichloropropene	
79 01-6	Trichloroethene	
124-48 1	Dibromochloromethane	
79 00 5	1 1 2 Trichloroethane	
71-43 2	Benzene	
10061-01-5	cis 1 3 Dichloropropene	
110 75 8	2 Chloroethylvinylether	NA
75 25 2	Bromoform	< 4
591-78 6	2-Hexanone	
108 10-1	4-Methyl-2-Pentanone	
127-18-4	Tetrachloroethene	
108 88 3	Toluene	
108 90 7	Chlorobenzene	
100 41-4	Ethylbenzene	
100 42-5	Styrene	
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used Additional flags or footnotes explaining results are encouraged However the definition of each flag must be explicit

Value If the result is a value greater than or equal to the detection limit report the value

U Indicates compound was analyzed for but not detected Report the minimum detection limit for the sample with the U (e g 10U) based on necessary concentration dilution actions (This is not necessarily the instrument detection limit) The footnote should read U Compound was analyzed for but not detected The number is the minimum attainable detection limit for the sample

J Indicates an estimated value This flag is used either when estimating a concentration for tentatively identified compounds where a 1 1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but

C This flag applies to pesticide parameters where the identification has been confirmed by GC MS Single component pesticides ≥10 ng ul in the final extract should be confirmed by GC MS

B This flag is used when the analyte is found in the blank as well as a sample It indicates possible probable blank contamination and warns the data user to take appropriate action

Other Other specific flags and footnotes may be required to properly define the results If used they must be fully described and such description attached to the data summary report

Table 7.B. Continued

C. GC/MS ANALYSIS DATA SHEET - Page 3

STATION 12

[illegible]

Case No: [illegible]

B. Tentatively Identified Compounds

CAS #	Compound Name	Fraction	Scan No. or Retention Time	Maximum Score Attained Mass Matching Routine: (Specify: ______)	Estimated Concentration (ug/L or ug/kg)
540	1-Butanol		320	923	2.50

PROJECT Champion Paper Montana DATE March 19, 1985

SUBSTRATE Water

Table 7.B. Continued

SPIKE LEVEL 20 ug/liter

Sample	BROMOCHLORO-METHANE	1,4-DICHLORO-BUTANE
Sample	102.0	90.5
Blank	107.5	95.5
Mean	106.7	105.3
S STD DEV	9.7	10.8
X ± 2×S	87.3-126.0	83.7-126.8
X ± 3×S	77.7-135.7	72.9-137.6
No of data points	118	118

Table 7.C. Results of Organic* Analysis of Clark Fork River Champion Wastewater Samples, Spring 1985.

STATION 11

FRN 9362

CLARK FORK RIVER

5-17-85

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: USEPA REGION 8
Case No: —
Lab Sample ID No: SILVER BOW
QC Report No:
Sample Matrix: AQUEOUS
Contract No.:
Data Release Authorized By: A. CURTIS
Date Sample Received: 5-17-85

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW MEDIUM HIGH (circle one)
DATE EXTRACTED/PREPARED: 5-29-85
DATE ANALYZED: 6-7-85
PERCENT MOISTURE: —
CONC/DILUTION FACTOR: 1000

PP #	CAS #		ug/l or ug/kg (circle one)
(21A)	88-06-2	2,4,6- trichlorophenol	<2
(22A)	59-50-7	p-chloro-m-cresol	
(24A)	95-57-8	2- chlorophenol	
(31A)	120-83-2	2,4-dichlorophenol	
(34A)	105-67-9	2,4-dimethylphenol	
(57A)	88-75-5	2- nitrophenol	
(58A)	100-02-7	4-nitrophenol	
(59A)	51-28-5	2,4-dinitrophenol	
(60A)	534-52-1	4,6-dinitro-2-methylphenol	
(64A)	87-86-5	pentachlorophenol	
(65A)	108-95-2	phenol	
	65-85-0	benzoic acid	
	95-48-7	2-methylphenol	
	108-39-4	4-methylphenol	
	95-95-4	2,4,5-trichlorophenol	
(1B)	83-32-9	acenaphthene	
(5B)	92-87-5	benzidine	
(8B)	120-82-1	1,2,4-trichlorobenzene	
(9B)	118-74-1	hexachlorobenzene	
(12B)	67-72-1	hexachloroethane	
(18B)	111-44-4	bis(2-chloroethyl)ether	
(20B)	91-58-7	2-chloronaphthalene	
(25B)	95-50-1	1,2-dichlorobenzene	
(26B)	541-73-1	1,3-dichlorobenzene	
(27B)	106-46-7	1,4-dichlorobenzene	
(28B)	91-94-1	3,3'-dichlorobenzidine	
(35B)	121-14-2	2,4-dinitrotoluene	
(36B)	606-20-2	2,6-dinitrotoluene	
(37B)	122-66-7	1,2-diphenylhydrazine	
(39B)	206-44-0	fluoranthene	
(40B)	7005-72-3	4-chlorophenyl phenyl ether	
(41B)	101-55-3	4-bromophenyl phenyl ether	
(42B)	39638-32-9	bis (2-chloroisopropyl) ether	
(43B)	111-91-1	bis (2-chloroethoxy) methane	

PP #	CAS #		ug/l or ug/kg (circle one)
(52B)	87-68-3	hexachlorobutadiene	<2
(53B)	77-47-4	hexachlorocyclopentadiene	
(54B)	78-59-1	isophorone	
(55B)	91-20-3	naphthalene	
(56B)	98-95-3	nitrobenzene	
(61B)	62-75-9	N-nitrosodimethylamine	
(62B)	86-30-6	N-nitrosodiphenylamine	
(63B)	621-64-7	N-nitrosodipropylamine	
(66B)	117-81-7	bis (2-ethylhexyl) phthalate	
(67B)	85-68-7	benzyl butyl phthalate	
(68B)	84-74-2	di-n-butyl phthalate	
(69B)	117-84-0	di-n-octyl phthalate	
(70B)	84-66-2	diethyl phthalate	
(71B)	131-11-3	dimethyl phthalate	2.0
(72B)	56-55-3	benzo(a)anthracene	<2
(73B)	50-32-8	benzo(a)pyrene	
(74B)	205-99-2	benzo(b)fluoranthene	
(75B)	207-08-9	benzo(k)fluoranthene	
(76B)	218-01-9	chrysene	
(77B)	208-96-8	acenaphthylene	
(78B)	120-12-7	anthracene	
(79B)	191-24-2	benzo(ghi)perylene	
(80B)	86-73-7	fluorene	
(81B)	85-01-8	phenanthrene	
(82B)	53-70-3	dibenzo(a,h)anthracene	
(83B)	193-39-5	indeno(1,2,3-cd)pyrene	
(84B)	129-00-0	pyrene	
	62-53-3	aniline	
	100-51-6	benzyl alcohol	
	106-47-8	4-chloroaniline	
	132-64-9	dibenzofuran	
	91-57-6	2-methylnaphthalene	
	88-74-4	2-nitroaniline	
	99-09-2	3-nitroaniline	
	100-01-6	4-nitroaniline	

1983

*Note: Volatile Compounds Not Analyzed

STATION
11

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

FRN 9362

Sample Number
CLARK FORK RIVER

5-17-85

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 5-29-85

Date Analyzed. 6-7-85

Conc/Dil Factor: 1000

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	<2
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4 4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4, 4'-DDD	
7421-93-4	Endrin Aldehyde	
1031-07-8	Endosulfan Sulfate	
50-29-3	4 4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	N/A
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469 21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s ________ or W_s ________ V_t ________ V_i ________

Form 1 4 84

Form I. (continued).

STATION
12

FRN 9371

Sample Number
CHAMPION WAST
5-17-8

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: USEPA REGION 8 Case No: —
Lab Sample ID No: QC Report No:
Sample Matrix: AQUEOUS Contract No.:
Data Release Authorized By: A. CURTIS Date Sample Received: 5-18-85

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW MEDIUM HIGH (circle one)
DATE EXTRACTED/PREPARED: 5-29-85
DATE ANALYZED: 6-10-85
PERCENT MOISTURE: —
CONC/DILUTION FACTOR: 200

PP #	CAS #		ug/l or ug/kg (circle one)
(21A)	88-06-2	2,4,6- trichlorophenol	<10
(22A)	59-50-7	p-chloro-m-cresol	
(24A)	95-57-8	2- chlorophenol	
(31A)	120-83-2	2,4-dichlorophenol	
(34A)	105-67-9	2,4-dimethylphenol	
(57A)	88-75-5	2- nitrophenol	
(58A)	100-02-7	4-nitrophenol	
(59A)	51-28-5	2,4-dinitrophenol	
(60A)	534-52-1	4,6-dinitro-2-methylphenol	
(64A)	87-86-5	pentachlorophenol	
(65A)	108-95-2	phenol	
	65-85-0	benzoic acid	
	95-48-7	2-methylphenol	
	108-39-4	4-methylphenol	
	95-95-4	2,4,5-trichlorophenol	
(1B)	83-32-9	acenaphthene	
(5B)	92-87-5	benzidine	
(8B)	120-82-1	1,2,4-trichlorobenzene	
(9B)	118-74-1	hexachlorobenzene	
(12B)	67-72-1	hexachloroethane	
(18B)	111-44-4	bis(2-chloroethyl)ether	
(20B)	91-58-7	2-chloronaphthalene	
(25B)	95-50-1	1,2-dichlorobenzene	
(26B)	541-73-1	1,3-dichlorobenzene	
(27B)	106-46-7	1,4-dichlorobenzene	
(28B)	91-94-1	3,3'-dichlorobenzidine	
(35B)	121-14-2	2,4-dinitrotoluene	
(36B)	606-20-2	2,6-dinitrotoluene	
(37B)	122-66-7	1,2-diphenylhydrazine	
(39B)	206-44-0	fluoranthene	
(40B)	7005-72-3	4-chlorophenyl phenyl ether	
(41B)	101-55-3	4-bromophenyl phenyl ether	
(42B)	39638-32-9	bis (2-chloroisopropyl) ether	
(43B)	111-91-1	bis (2-chloroethoxy) methane	

PP #	CAS #		ug/l or ug/kg (circle one)
(52B)	87-68-3	hexachlorobutadiene	<10
(53B)	77-47-4	hexachlorocyclopentadiene	
(54B)	78-59-1	isophorone	
(55B)	91-20-3	naphthalene	
(56B)	98-95-3	nitrobenzene	
(61B)	62-75-9	N-nitrosodimethylamine	
(62B)	86-30-6	N-nitrosodiphenylamine	
(63B)	621-64-7	N-nitrosodipropylamine	
(66B)	117-81-7	bis (2-ethylhexyl) phthalate	
(67B)	85-68-7	benzyl butyl phthalate	
(68B)	84-74-2	di-n-butyl phthalate	
(69B)	117-84-0	di-n-octyl phthalate	
(70B)	84-66-2	diethyl phthalate	
(71B)	131-11-3	dimethyl phthalate	
(72B)	56-55-3	benzo(a)anthracene	
(73B)	50-32-8	benzo(a)pyrene	
(74B)	205-99-2	benzo(b)fluoranthene	
(75B)	207-08-9	benzo(k)fluoranthene	
(76B)	218-01-9	chrysene	
(77B)	208-96-8	acenaphthylene	
(78B)	120-12-7	anthracene	
(79B)	191-24-2	benzo(ghi)perylene	
(80B)	86-73-7	fluorene	
(81B)	85-01-8	phenanthrene	
(82B)	53-70-3	dibenzo(a,h)anthracene	
(83B)	193-39-5	indeno(1,2,3-cd)pyrene	
(84B)	129-00-0	pyrene	
	62-53-3	aniline	
	100-51-6	benzyl alcohol	
	106-47-8	4-chloroaniline	
	132-64-9	dibenzofuran	
	91-57-6	2-methylnaphthalene	
	88-74-4	2-nitroaniline	
	99-09-2	3-nitroaniline	
	100-01-6	4-nitroaniline	

1985

FRN 9371

STATION
12

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

Sample Number
CHAMPION WASTE
5-17-85

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 5-29-85

Date Analyzed: 6-10-85

Conc/Dil Factor: 200

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	<10
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4, 4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4, 4'-DDD	
7421-93-4	Endrin Aldehyde	
1031-07-8	Endosulfan Sulfate	
50-29-3	4, 4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	N/A
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s ______________ or W_s ______________ V_t ______________ V_i ______________

Form I 6/84

Form I. (continued).

Environmental Protection Agency. CLP Sample Management Office.
P O Box 818, Alexandria, Virginia 22313 703/557-2490

FRN 9371

Sample Number: CHAMPION WASTE
5-17-85
STATION 12

Table 7.C. Continued

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	1[2-(2-METHOXY-1-METHYLETHOXY)-1-METHYLETHOXY]-2-PROPANOL $C_{10}H_{22}O_4$	A/B/N	16.53	480
~~2.~~				
~~3.~~ 2	ISOMER OF #1		16.90	145
~~4.~~ 3	METHYLPENTADECANOIC ACID		26.82	188
~~5.~~ 4	ANDROST-16-EN-3-ONE		26.98	99.5
~~6.~~ 5	1-EICOSENE $C_{20}H_{40}$ MW 280		30.73	164
~~7.~~ 6	ISOPIMARIC ACID MW 302		31.30	216
~~8.~~ 7	PIMARIC ACID MW 302		31.77	804
~~9.~~ 8	SIMILAR TO PIMARIC ACID MW 302		32.52	1050
~~10.~~ 9	DEHYDROABIETIC ACID MW 300		32.97	1120
~~11.~~ 10	15-HYDROXY-ANDROST-4-ENE-3,17-DIONE		33.42	538
~~12.~~ 11	UNKNOWN ACID MW 340		33.75	336
~~13.~~ 12	1-TETRACOSANOL $C_{24}H_{50}O$		34.95	171
~~14.~~ 13	ERGOST-5-EN-3-OL $C_{28}H_{48}O$ MW 400		41.92	243
~~15.~~ 14	STIGMAST-5-EN-3-OL $C_{29}H_{50}O$ MW 414		43.65	847
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

NATURAL ACIDS, KETONES AND ALCOHOLS.

STATION
11

FRN 9366

Sample Number
CLARK FORK RIVER
5-31-85

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: USEPA REGION 8 | Case No: —
Lab Sample ID No: SILVER BOW | QC Report No:
Sample Matrix: AQUEOUS | Contract No.:
Data Release Authorized By: A. CURTIS | Date Sample Received: 5-31-85

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW MEDIUM HIGH (circle one)
DATE EXTRACTED/PREPARED: 6-5-85
DATE ANALYZED: 6-7-85
PERCENT MOISTURE: —
CONC./DILUTION FACTOR: 1000

PP #	CAS #		ug/l or ug/kg (circle one)
(21A)	88-06-2	2,4,6- trichlorophenol	<2
(22A)	59-50-7	p-chloro-m-cresol	
(24A)	95-57-8	2- chlorophenol	
(31A)	120-83-2	2,4-dichlorophenol	
(34A)	105-67-9	2,4-dimethylphenol	
(57A)	88-75-5	2- nitrophenol	
(58A)	100-02-7	4-nitrophenol	
(59A)	51-28-5	2,4-dinitrophenol	
(60A)	534-52-1	4,6-dinitro-2-methylphenol	
(64A)	87-86-5	pentachlorophenol	
(65A)	108-95-2	phenol	
	65-85-0	benzoic acid	
	95-48-7	2-methylphenol	
	108-39-4	4-methylphenol	
	95-95-4	2,4,5-trichlorophenol	
(1B)	83-32-9	acenaphthene	
(5B)	92-87-5	benzidine	
(8B)	120-82-1	1,2,4-trichlorobenzene	
(9B)	118-74-1	hexachlorobenzene	
(12B)	67-72-1	hexachloroethane	
(18B)	111-44-4	bis(2-chloroethyl)ether	
(20B)	91-58-7	2-chloronaphthalene	
(25B)	95-50-1	1,2-dichlorobenzene	
(26B)	541-73-1	1,3-dichlorobenzene	
(27B)	106-46-7	1,4-dichlorobenzene	
(28B)	91-94-1	3,3'-dichlorobenzidine	
(35B)	121-14-2	2,4-dinitrotoluene	
(36B)	606-20-2	2,6-dinitrotoluene	
(37B)	122-66-7	1,2-diphenylhydrazine	
(39B)	206-44-0	fluoranthene	
(40B)	7005-72-3	4-chlorophenyl phenyl ether	
(41B)	101-55-3	4-bromophenyl phenyl ether	
(42B)	39638-32-9	bis (2-chloroisopropyl) ether	
(43B)	111-91-1	bis (2-chloroethoxy) methane	

PP #	CAS #		ug/l or ug/kg (circle one)
(52B)	87-68-3	hexachlorobutadiene	<2
(53B)	77-47-4	hexachlorocyclopentadiene	
(54B)	78-59-1	isophorone	
(55B)	91-20-3	naphthalene	
(56B)	98-95-3	nitrobenzene	
(61B)	62-75-9	N-nitrosodimethylamine	
(62B)	86-30-6	N-nitrosodiphenylamine	
(63B)	621-64-7	N-nitrosodipropylamine	
(66B)	117-81-7	bis (2-ethylhexyl) phthalate	
(67B)	85-68-7	benzyl butyl phthalate	
(68B)	84-74-2	di-n-butyl phthalate	
(69B)	117-84-0	di-n-octyl phthalate	
(70B)	84-66-2	diethyl phthalate	
(71B)	131-11-3	dimethyl phthalate	
(72B)	56-55-3	benzo(a)anthracene	
(73B)	50-32-8	benzo(a)pyrene	
(74B)	205-99-2	benzo(b)fluoranthene	
(75B)	207-08-9	benzo(k)fluoranthene	
(76B)	218-01-9	chrysene	
(77B)	208-96-8	acenaphthylene	
(78B)	120-12-7	anthracene	
(79B)	191-24-2	benzo(ghi)perylene	
(80B)	86-73-7	fluorene	
(81B)	85-01-8	phenanthrene	
(82B)	53-70-3	dibenzo(a,h)anthracene	
(83B)	193-39-5	indeno(1,2,3-cd)pyrene	
(84B)	129-00-0	pyrene	
	62-53-3	aniline	
	100-51-6	benzyl alcohol	
	106-47-8	4-chloroaniline	
	132-64-9	dibenzofuran	
	91-57-6	2-methylnaphthalene	
	88-74-4	2-nitroaniline	
	99-09-2	3-nitroaniline	
	100-01-6	4-nitroaniline	

1983

STATION
11

FRN 9366

Environmental Protection Agency CLP Sample Management Office
P O Box 818, Alexandria Virginia 22313 703/557-2490

Sample Number
CLARK FORK RIVER

5-31-85

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration. Low Medium (Circle One)

Date Extracted/Prepared. 6-5-85

Date Analyzed 6-7-85

Conc/Dil Factor. 1000

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha BHC	<2
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4 4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4 4'-DDD	
7421-93-4	Endrin Aldehyde	
1031-07-8	Endosulfan Sulfate	
50-29-3	4 4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	N/A
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s ________ or W_s ________ V_t ________ V_i ________

Form 1 4 84

Form I. (continued).

STATION
12

FRN 9372

Sample Number
CHAMPION WASTE
5-31-85

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: USEPA REGION 8
Case No: ——
Lab Sample ID No: SILVER BOW
QC Report No:
Sample Matrix: AQUEOUS
Contract No.:
Data Release Authorized By: A. CURTIS
Date Sample Received: 5-31-85

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW MEDIUM HIGH (circle one)
DATE EXTRACTED/PREPARED: 6-5-85
DATE ANALYZED: 6-10-85
PERCENT MOISTURE: —
CONC./DILUTION FACTOR: 200

PP #	CAS #		ug/l or ug/kg (circle one)
(21A)	88-06-2	2,4,6- trichlorophenol	<2
(22A)	59-50-7	p-chloro-m-cresol	
(24A)	95-57-8	2- chlorophenol	
(31A)	120-83-2	2,4-dichlorophenol	
(34A)	105-67-9	2,4-dimethylphenol	
(57A)	88-75-5	2- nitrophenol	
(58A)	100-02-7	4-nitrophenol	
(59A)	51-28-5	2,4-dinitrophenol	
(60A)	534-52-1	4,6-dinitro-2-methylphenol	
(64A)	87-86-5	pentachlorophenol	
(65A)	108-95-2	phenol	
	65-85-0	benzoic acid	
	95-48-7	2-methylphenol	
	108-39-4	4-methylphenol	
	95-95-4	2,4,5-trichlorophenol	
(1B)	83-32-9	acenaphthene	
(5B)	92-87-5	benzidine	
(8B)	120-82-1	1,2,4-trichlorobenzene	
(9B)	118-74-1	hexachlorobenzene	
(12B)	67-72-1	hexachloroethane	
(18B)	111-44-4	bis(2-chloroethyl)ether	
(20B)	91-58-7	2-chloronaphthalene	
(25B)	95-50-1	1,2-dichlorobenzene	
(26B)	541-73-1	1,3-dichlorobenzene	
(27B)	106-46-7	1,4-dichlorobenzene	
(28B)	91-94-1	3,3'-dichlorobenzidine	
(35B)	121-14-2	2,4-dinitrotoluene	
(36B)	606-20-2	2,6-dinitrotoluene	
(37B)	122-66-7	1,2-diphenylhydrazine	
(39B)	206-44-0	fluoranthene	
(40B)	7005-72-3	4-chlorophenyl phenyl ether	
(41B)	101-55-3	4-bromophenyl phenyl ether	
(42B)	39638-32-9	bis (2-chloroisopropyl) ether	
(43B)	111-91-1	bis (2-chloroethoxyl methane	

PP #	CAS #		ug/l or ug/kg (circle one)
(52B)	87-68-3	hexachlorobutadiene	<2
(53B)	77-47-4	hexachlorocyclopentadiene	
(54B)	78-59-1	isophorone	
(55B)	91-20-3	naphthalene	
(56B)	98-95-3	nitrobenzene	
(61B)	62-75-9	N-nitrosodimethylamine	
(62B)	86-30-6	N-nitrosodiphenylamine	
(63B)	621-64-7	N-nitrosodipropylamine	
(66B)	117-81-7	bis (2-ethylhexyl) phthalate	
(67B)	85-68-7	benzyl butyl phthalate	
(68B)	84-74-2	di-n-butyl phthalate	
(69B)	117-84-0	di-n-octyl phthalate	
(70B)	84-66-2	diethyl phthalate	
(71B)	131-11-3	dimethyl phthalate	
(72B)	56-55-3	benzo(a)anthracene	
(73B)	50-32-8	benzo(a)pyrene	
(74B)	205-99-2	benzo(b)fluoranthene	
(75B)	207-08-9	benzo(k)fluoranthene	
(76B)	218-01-9	chrysene	
(77B)	208-96-8	acenaphthylene	
(78B)	120-12-7	anthracene	
(79B)	191-24-2	benzo(ghi)perylene	
(80B)	86-73-7	fluorene	
(81B)	85-01-8	phenanthrene	
(82B)	53-70-3	dibenzo(a,h)anthracene	
(83B)	193-39-5	indeno(1,2,3-cd)pyrene	
(84B)	129-00-0	pyrene	
	62-53-3	aniline	
	100-51-6	benzyl alcohol	
	106-47-8	4-chloroaniline	
	132-64-9	dibenzofuran	
	91-57-6	2-methylnaphthalene	
	88-74-4	2-nitroaniline	
	99-09-2	3-nitroaniline	
	100-01-6	4-nitroaniline	

1983

STATION
12

Environmental Protection Agency, CLP Sample Management Office,
P O Box 818, Alexandria, Virginia 22313 703/557-2490

FRN 9372

Sample Number
CHAMPION

WASTE

5-31-85

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 6-5-85

Date Analyzed. 6-10-85

Conc/Dil Factor: 200

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	< 2
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4 4 -DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4, 4'-DDD	
7421-93-4	Endrin Aldehyde	
1031-07-8	Endosulfan Sulfate	
50-29-3	4 4 -DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	N/A
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s ________ or W_s ________ V_t ________ V_i ________

Form 1 4 84

Form I. (continued).

Environmental Protection Agency CLP Sample Management Office,
P O Box 818, Alexandria, Virginia 22313 703/557-2490

FRN 9372

Sample Number
CHAMPION WASTE

5-31-85

STATION
12

Table 7.C. Continued

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	1-[2-(2-METHOXY-1-METHYLETHOXY)-	A/B/N	16.58	547
2.	1-METHYLETHOXY]-2-PROPANOL $C_{10}H_{22}O_4$			
3.	ISOMER OF #1		16.93	190
4.	METHYLPENTADECANOIC ACID		26.78	116
5.	ANDROST-16-EN-3-ONE		26.98	62.6
6.	1-EICOSENE $C_{20}H_{40}$ MW 280		30.68	94.6
7.	ISOPIMARIC ACID MW 302		31.22	155
8.	PIMARIC ACID MW 302		31.65	375
9.	SIMILAR TO PIMARIC ACID MW302		32.37	570
10.	DEHYDROABIETIC ACID MW 300		32.83	905
11.	15-HYDROXY-ANDROST-4-ENE-3,17-DIONE		33.28	240
12.	UNKNOWN ACID MW 340		33.65	285
13.	1-TETRACOSANOL $C_{24}H_{50}O$		34.90	160
14.	ERGOST-5-EN-3-OL $C_{28}H_{48}O$ MW400		41.88	194
15.	STIGMAST-5-EN-3-OL $C_{29}H_{50}O$ MW 414		43.57	695
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26				
27				
28.				
29.				
30.				

NATURAL ACIDS, KETONES + ALCOHOLS.

FRN 9358

Sample Number: LAB BLANK

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: USEPA REGION 8
Lab Sample ID No: SILVER BOW LAB BLANK
Sample Matrix: AQUEOUS
Data Release Authorized By: A. CURTIS

Case No: —
QC Report No:
Contract No.:
Date Sample Received: —

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW MEDIUM HIGH (circle one)
DATE EXTRACTED/PREPARED: 5-30-85
DATE ANALYZED: 6-6-85
PERCENT MOISTURE: —
CONC./DILUTION FACTOR: 1000

PP #	CAS #		ug/l or ug/kg (circle one)
(21A)	88-06-2	2,4,6-trichlorophenol	< 2
(22A)	59-50-7	p-chloro-m-cresol	
(24A)	95-57-8	2-chlorophenol	
(31A)	120-83-2	2,4-dichlorophenol	
(34A)	105-67-9	2,4-dimethylphenol	
(57A)	88-75-5	2-nitrophenol	
(58A)	100-02-7	4-nitrophenol	
(59A)	51-28-5	2,4-dinitrophenol	
(60A)	534-52-1	4,6-dinitro-2-methylphenol	
(64A)	87-86-5	pentachlorophenol	
(65A)	108-95-2	phenol	
	65-85-0	benzoic acid	
	95-48-7	2-methylphenol	
	108-39-4	4-methylphenol	
	95-95-4	2,4,5-trichlorophenol	
(1B)	83-32-9	acenaphthene	
(5B)	92-87-5	benzidine	
(8B)	120-82-1	1,2,4-trichlorobenzene	
(9B)	118-74-1	hexachlorobenzene	
(12B)	67-72-1	hexachloroethane	
(18B)	111-44-4	bis(2-chloroethyl)ether	
(20B)	91-58-7	2-chloronaphthalene	
(25B)	95-50-1	1,2-dichlorobenzene	
(26B)	541-73-1	1,3-dichlorobenzene	
(27B)	106-46-7	1,4-dichlorobenzene	
(28B)	91-94-1	3,3'-dichlorobenzidine	
(35B)	121-14-2	2,4-dinitrotoluene	
(36B)	606-20-2	2,6-dinitrotoluene	
(37B)	122-66-7	1,2-diphenylhydrazine	
(39B)	206-44-0	fluoranthene	
(40B)	7005-72-3	4-chlorophenyl phenyl ether	
(41B)	101-55-3	4-bromophenyl phenyl ether	
(42B)	39638-32-9	bis (2-chloroisopropyl) ether	
(43B)	111-91-1	bis (2-chloroethoxyl) methane	

PP #	CAS #		ug/l or ug/kg (circle one)
(52B)	87-68-3	hexachlorobutadiene	< 2
(53B)	77-47-4	hexachlorocyclopentadiene	
(54B)	78-59-1	isophorone	
(55B)	91-20-3	naphthalene	
(56B)	98-95-3	nitrobenzene	
(61B)	62-75-9	N-nitrosodimethylamine	
(62B)	86-30-6	N-nitrosodiphenylamine	
(63B)	621-64-7	N-nitrosodipropylamine	
(66B)	117-81-7	bis (2-ethylhexyl) phthalate	
(67B)	85-68-7	benzyl butyl phthalate	
(68B)	84-74-2	di-n-butyl phthalate	
(69B)	117-84-0	di-n-octyl phthalate	
(70B)	84-66-2	diethyl phthalate	
(71B)	131-11-3	dimethyl phthalate	
(72B)	56-55-3	benzo(a)anthracene	
(73B)	50-32-8	benzo(a)pyrene	
(74B)	205-99-2	benzo(b)fluoranthene	
(75B)	207-08-9	benzo(k)fluoranthene	
(76B)	218-01-9	chrysene	
(77B)	208-96-8	acenaphthylene	
(78B)	120-12-7	anthracene	
(79B)	191-24-2	benzo(ghi)perylene	
(80B)	86-73-7	fluorene	
(81B)	85-01-8	phenanthrene	
(82B)	53-70-3	dibenzo(a,h)anthracene	
(83B)	193-39-5	indeno(1,2,3-cd)pyrene	
(84B)	129-00-0	pyrene	
	62-53-3	aniline	
	100-51-6	benzyl alcohol	
	106-47-8	4-chloroaniline	
	132-64-9	dibenzofuran	
	91-57-6	2-methylnaphthalene	
	88-74-4	2-nitroaniline	
	99-09-2	3-nitroaniline	
	100-01-6	4-nitroaniline	

'983

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P O Box 818, Alexandria, Virginia 22313 703/557-2490

FRN 9358

Sample Number
LAB BLANK

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 5-30-85

Date Analyzed 6-6-85

Conc/Dil Factor: 1000

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	< 2
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4,4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4,4'-DDD	
7421-93-4	Endrin Aldehyde	
1031-07-8	Endosulfan Sulfate	
50-29-3	4,4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	↓
8001-35-2	Toxaphene	N/A
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	↓

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s ______ or W_s ______ V_t ______ V_i ______

Form 1 4/84

Form I. (continued).

DATE: 6-25-85

PROJECT: SILVER BOW/CHAMPION

SUBSTRATE: AQUEOUS

SPIKE LEVEL: 50 ug/l

GC/MS FILE	SAMPLE	2-FLUORO PHENOL	D6-PHENOL	D5-NITROBENZENE	QUINOXALINE	2-FLUORO BIPHENYL	D10-PHENANTHRENE
9358	LAB BLANK	57.6	43.2	62.8	66.6	71.0	80.2
9360	CLARK FORK 5-8-85	55.0	41.2	63.4	64.2	72.0	79.8
9361	TAYLOR CREEK 5-31-85	53.1	39.0	59.3	86.1	75.6	90.2
9362	CHAMPION RIVER 5-17-85	51.4	42.1	60.0	59.0	63.1	111
9363	CHAMPION WELL 5-17-85	49.0	39.5	55.8	57.0	67.6	94.1
9364	CLARK FORK 5-22-85	51.0	38.5	66.3	67.2	74.3	98.4
9365	TAYLOR CREEK 5-22-85	55.1	42.5	66.7	68.5	75.2	99.9
9366	CHAMPION 5-31-85	58.7	47.0	66.7	65.0	72.2	90.8
9367	CLARK FORK 5-31-85	59.6	44.1	68.4	69.7	80.3	108
9368	TAYLOR CREEK 5-8-85	53.1	43.8	66.5	71.5	81.2	115
9369	CLARK FORK WELL 5-31-85	54.9	40.3	59.7	56.8	67.0	99.6
9371	CHAMPION WASTE 5-17-85	52.9	49.2	56.8	86.4	78.5	95.8
9372	CHAMPION WASTE 5-31-85	65.9	56.3	70.1	87.5	84.4	86.7
9377	CLARK FORK 6-6-85	72.0	59.6	83.0	83.8	85.8	97.6
9378	TAYLOR CREEK 6-6-85	74.8	58.8	86.4	89.2	92.6	99.2
9379	ELLSWORTH AFB SD0000281-5	65.8	52.6	73.8	75.0	72.8	111
CUSUM	$\bar{P}$	69.8	58.9	78.5	78.6	79.2	95.5
DATA	S.D.	12.9	12.3	12.9	11.5	10.6	10.5
BASE	$\bar{P} \pm 2$ SD	44.0-95.5	34.3-83.5	52.6-104	55.7-101	57.9-101	74.6-116
	$\bar{P} \pm 3$ SD	31.2-108	22.0-95.8	39.6-117	44.2-113	47.3-111	64.2-127
	# OF DATA POINTS	92	91	92	92	92	31

ALL RECOVERIES WITHIN 95% CONFIDENCE LIMITS.

2. Deep-water Sampling: Reservoir and River Pool Stations

a. Rationale

Identical water samples were collected at the same time from the surface and near the bottom of the four mainstem impoundments (Milltown, Thompson Falls, Noxon Rapids and Cabinet Gorge Reservoirs) and from up to 11 deepwater pools between Frenchtown and Thompson Falls. This type of sampling was designed to determine whether dissolved oxygen and pH are depressed near the bottom of deepwater areas and whether such depressions result in a mobilization (solution) of heavy metals that may be contained in the bottom sediments.

b. Methods

Top and bottom water samples for metals and dissolved oxygen analysis were collected from the four reservoirs and several river pools on a seasonal basis (spring, summer, fall). The reservoirs were sampled a total of five times; however, river pool sampling was discontinued after two runs.

Water was brought up from the bottom using a Kemmerer depth sampler lowered from a boat. The importance of dissolved (and biologically effective) metals in this type of monitoring approach required filtering one set of metals samples in the field.

Sample collection and analysis methods and the analyzing laboratory are summarized in Table 8. Methods for sample preservation and handling are included in Appendix C.

c. Results

Reservoir and river pool water analysis data are listed in Table 9. A statistical summary of the data follows in Table 10. Field notations at the time of sampling are summarized in Appendix C.

Table 8. Sample Collection and Analysis Methods for Chemical/Physical Deep-water Monitoring

Variable	Collection Method	Analytical Method	Laboratory
Water Temperature (°C) (T(C))	Kemmerer sample (bottom)	Instream field determination (surface)	Field personnel
Hardness (mg/l) as $CaCO_3$ (HARD)	Grab sample (surface) and Kemmerer sample (bottom)	EPA 200.7 1)	MDHES Chem Lab
Total Recoverable and Dissolved Metals (mg/l)	Grab, Kemmerer samples. Dissolved metals sample field filtered (0.45 u) prior to preservation.		MDHES Chem Lab
Iron (FE T.R., FE DISS)		EPA 200.7 1)	
Copper (CU T.R., CU DISS)		EPA 200.7 1)	
Zinc (ZN T.R., ZN DISS)		EPA 200.7 1)	
Manganese (MN T.R., MN DISS)		EPA 200.7 1)	
Cadmium (CD T.R. CD DISS)		EPA 200.7 1)	
Arsenic (AS T.R., AS DISS)		EPA 200.7 1) (automated)	
Chromium (CR T.R., CR DISS)		EPA 200.7 1)	
Lead (PB T.R., PB DISS)		EPA 200.7 1)	
Silver (AG T.R., AG DISS)		EPA 200.7 1)	
pH, Field and Lab (standard pH units) (PH FLD, PH LAB)	Grab, Kemmerer samples.	EPA 151.2 1)	Field personnel and MDHES Chem Lab
Specific Conductance (umhos/cm @ 25°C) (SPEC COND)	Grab, Kemmerer samples.	EPA 120.1 1)	MDHES Chem Lab
Dissolved Oxygen (mg/l) (D.O.)	Grab, Kemmerer samples.	EPA 360.2 1)	Field personnel
Acid Soluble Metals (mg/l)	Grab, Kemmerer samples followed by lab filtration (0.45 u) after 48 hours.		Energy Labs, Inc.
Copper (CU A.S.)		EPA 220.2 1)	
Zinc (ZN A.S.)		EPA 289.2 1)	
Cadmium (CD A.S.)		EPA 213.2 1)	
Lead (PB A.S.)		EPA 239.2 1)	

References

1) "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020 U.S. Environmental Protection Agency, 1983 (Revised).

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON MARCH 5-8, 1984

	STATION	DAY	TIME	TOTAL DEPTH	T (C)	PH FLD	PH LAB	SPEC COND	D.O.	HARD	FE T.R.	FE DISS	CU T.R.	CU DISS	ZN T.R.	ZN DISS	MN T.R.	MN DISS
03	MILLTOWN-T	05	1401	8	4.5		8.36	391	13.6	185	0.11	0.01	<0.01	<0.01	0.02	0.009	0.03	0.02
03	MILLTOWN-B	05	1400	8			8.31	397	13.3	182	0.13	0.02	<0.01	<0.01	0.02	0.009	0.03	0.02
13	MARCURE-TP	06	1400	3	5.5	7.8	8.35	282	13.3	123	0.07	0.02	<0.01	<0.01	0.009	<0.005	0.03	0.03
13	MARCURE-BT																	
15	HUSON-TOP	06	1100	22	4.0		8.23	280	12.5	123	0.10	0.02	<0.01	<0.01	0.007	<0.005	0.04	0.04
15	HUSON-BOT	06	1101	22			8.24	282	12.1	124	0.16	0.02	<0.01	<0.01	0.02	<0.005	0.05	0.04
16	9MILE-TOP	06	0900		4.0		8.18	278	11.8	122	0.10	0.02	<0.01	<0.01	<0.02	<0.005	0.04	0.03
16	9MILE-BOT																	
17	BEL FISH-T	07	1000	50	4.0	7.9	8.33	276	12.2	121	0.11	0.02	<0.01	<0.01	0.04	<0.005	0.04	0.02
17	BEL FISH-B	07	1001	50		7.7	8.26	274	12.1	122	0.02	<0.01	<0.01	<0.01	0.008	0.007	0.03	0.04
18	TARKIO-TOP	07	1200	20	5.0	7.9	8.32	275	12.3	121	0.12	0.02	<0.01	<0.01	0.008	0.01	0.04	0.03
18	TARKIO-BOT	07	1155	20		7.9	8.33	277	12.3	122	0.10	0.02	<0.01	<0.01	<0.005	<0.005	0.04	0.03
19.5	SUPERIOR-T	07	1501	27		8.1	8.50	271	13.3	122	0.10	0.01	<0.01	<0.01	0.02	<0.005	0.05	0.02
19.5	SUPERIOR-B	07	1500	27		8.1	8.55	272	13.3	121	0.09	0.02	<0.01	<0.01	<0.005	<0.005	0.03	0.02
20	LAVISTA-TP																	
20	LAVISTA-BT																	
20.5	RED HILL-T																	
20.5	RED HILL-B																	
21	BOXCAR-TOP																	
21	BOXCAR-BOT																	
21.5	TOOLE-TOP																	
21.5	TOOLE-BOT																	
22	AB FHEAD-T																	
22	AB FHEAD-B																	
26	T FALLS-TP	08	1315	17	4.0	7.8	8.35	204	12.3	92	0.03	<0.01	<0.01	<0.01	0.006	<0.005	0.01	0.01
26	T FALLS-BT																	
28	NOXON-TOP	08	1115	22	4.0	7.7	8.29	187	12.3	88	0.04	<0.01	<0.01	<0.01	0.01	<0.005	0.02	0.01
28	NOXON-BOT	08	1105	22		7.8	8.32	193	12.4	91	0.04	<0.01	<0.01	<0.01	<0.005	<0.005	0.02	0.01
30	CAB GORG-T	08	1700	27	3.0	7.8	8.28	196	12.8	91	0.02	0.01	<0.01	<0.01	<0.005	0.008	0.01	0.006
30	CAB GORG-B	08	1701	27		7.1	8.29	192	12.8	91	0.03	<0.01	<0.01	<0.01	<0.005	<0.005	0.01	0.005

NOTE: ALL VALUES ARE IN MG/L EXCEPT DEPTH(FEET), TEMPERATURE(DEG. C), PH(PH UNITS), AND S.C.(UMHOS/CM).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. FIELD PH VALUES ARE QUESTIONABLE FOR THIS RUN.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON MARCH 5-8, 1984

	STATION	DAY	TIME	CD T.R.	CD DISS	AS T.R.	AS DISS	CR T.R.	CR DISS	PB T.R.	PB DISS	AG T.R.	AG DISS	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
03	MILLTOWN-T	05	1401	0.005	<0.005	0.005	0.005	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
03	MILLTOWN-B	05	1400	<0.005	<0.005	0.006	0.005	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
13	MARCURE-TP	06	1400	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
13	MARCURE-BT																
15	HUSON-TOP	06	1100	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
15	HUSON-BOT	06	1101	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
16	9MILE-TOP	06	0900	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
16	9MILE-BOT																
17	BEL FISH-T	07	1000	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
17	BEL FISH-B	07	1001	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
18	TARKIO-TOP	07	1200	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
18	TARKIO-BOT	07	1155	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
19.5	SUPERIOR-T	07	1501	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
19.5	SUPERIOR-B	07	1500	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
20	LAVISTA-TP																
20	LAVISTA-BT																
20.5	RED HILL-T																
20.5	RED HILL-B																
21	BOXCAR-TOP																
21	BOXCAR-BOT																
21.5	TOOLE-TOP																
21.5	TOOLE-BOT																
22	AB FHEAD-T																
22	AB FHEAD-B																
26	T FALLS-TP	08	1315	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
26	T FALLS-BT																
28	NOXON-TOP	08	1115	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
28	NOXON-BOT	08	1105	<0.005	<0.005	<0.001	<0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
30	CAB GORG-T	08	1700	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
30	CAB GORG-B	08	1701	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				

NOTE: ALL VALUES ARE IN MG/L. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND A.S. MEANS ACID SOLUBLE.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JULY 23-26, 1984

	STATION	DAY	TIME	TOTAL DEPTH	T (C)	PH FLD	PH LAB	SPEC COND	D.O.	HARD	FE T.R.	FE DISS	CU T.R.	CU DISS	ZN T.R.	ZN DISS	MN T.R.	MN DISS
03	MILLTOWN-T	26	1110	10		8.1	7.96	320	8.2	149	0.06	0.01	0.01	<0.01	0.01	0.006	0.02	0.02
03	MILLTOWN-B																	
13	MARCURE-TP	23	1300	5	17.5	7.9	8.05	228	7.7	99	0.05	0.02	<0.01	0.01	0.01	0.008	0.06	0.05
13	MARCURE-BT																	
15	HUSON-TOP	23	1030	18	17.	8.3	8.22	231	8.7	103	0.10	0.02	0.01	0.01	0.008	0.008	0.03	0.02
15	HUSON-BOT	23	1040	18	17.	8.4	8.27	235	8.7	101	0.12	0.02	0.01	0.01	0.01	0.007	0.04	0.02
16	9MILE-TOP	23	0830	3	18.	7.8	8.24	226	8.0	102	0.07	0.02	0.01	<0.01	0.04	0.009	0.03	0.02
16	9MILE-BOT																	
17	BELL FISH-T	24	1910	45	20.	8.25	8.44	227	9.05	102	0.06	0.02	0.01	0.01	<0.005	<0.005	0.02	0.01
17	BELL FISH-B	24	1915	45	20.	8.2	8.47	223	9.0	102	0.18	0.02	0.02	0.01	0.02	<0.005	0.04	0.01
18	TARKIO-TOP	24	2000	10	20.	8.6	8.46	221	9.05	102	0.08	0.02	0.01	<0.01	0.005	<0.005	0.02	0.01
18	TARKIO-BOT	24	2005	10	20.	8.6	8.42	222	9.0	102	0.12	0.02	0.02	0.01	0.007	0.008	0.03	0.01
19.5	SUPERIOR-T																	
19.5	SUPERIOR-B																	
20	LAVISTA-TP	24	1650	14	20.	8.75	8.60	215	10.1	93	0.04	0.02	<0.01	<0.01	<0.007	<0.005	0.01	0.009
20	LAVISTA-BT	24	1655	14	20.5	8.75	8.58	214	10.0	99	0.06	0.02	0.01	<0.01	0.006	<0.005	0.02	0.005
20.5	RED HILL-T	24	1600	6	20.	8.6	8.55	218	9.8	100	0.06	0.01	<0.01	<0.01	0.04	<0.005	0.02	0.008
20.5	RED HILL-B																	
21	BOXCAR-TOP	24	1420	21	19.	8.6	8.47	205	9.6	93	0.06	0.02	0.01	0.02	0.09	0.006	0.03	0.005
21	BOXCAR-BOT	24	1425	21	19.	8.55	8.45	215		101	0.05	0.01	<0.01	<0.01	0.007	0.007	0.01	0.005
21.5	TOOLE-TOP	24	1330	17	19.5	8.45	8.37	222	8.7	100	0.06	0.04	0.01	0.02	0.02	0.008	0.02	0.05
21.5	TOOLE-BOT	24	1335	17	19.5	8.55	8.48	208	8.7	94	0.08	0.02	0.02	0.01	0.01	0.006	0.02	0.01
22	AB FHEAD-T	24	1100	20	18.5	8.4	8.52	210	8.6	98	0.05	0.02	0.01	0.01	0.01	0.006	0.01	0.007
22	AB FHEAD-B	24	1105	20	19.		8.47	217	8.5	98	0.06	0.02	0.02	0.01	0.04	0.005	0.02	<0.005
26	T FALLS-TP	25	0940	40	21.5	8.2	8.43	185	8.3	92	0.04	0.01	0.01	0.02	0.05	0.006	0.02	<0.005
26	T FALLS-BT	25	0945	40	21.5	8.35	8.44	189	8.4	92	0.03	0.02	0.01	0.01	0.006	0.006	0.01	<0.005
28	NOXON-TOP	25	1240	40	23.6	8.25	8.43	185	8.4	85	0.06	0.01	0.01	<0.01	0.02	0.006	0.05	<0.005
28	NOXON-BOT	25	1245	40	20.8	8.05	8.26	186	7.1	83	0.07	0.01	0.01	<0.01	0.03	0.01	0.04	0.008
30	CAB GORG-T	25	1700	27	21.5	8.2	8.42	167	8.6	78	0.03	0.01	0.02	0.02	<0.005	<0.005	0.02	<0.005
30	CAB GORG-B	25	1705	27	21.	8.2	8.34	166	8.5	79	0.04	0.01	0.01	0.01	0.02	0.005	0.02	<0.005

NOTE: ALL VALUES ARE IN MG/L EXCEPT DEPTH(FEET), TEMPERATURE(DEG. C), PH(PH UNITS), AND S.C.(UMHOS/CM). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
PESULTS OF SAMPLES TAKEN ON JULY 23-26, 1984

	STATION	DAY	TIME	CD T.R.	CD DISS	AS T.R.	AS DISS	CR T.R.	CR DISS	PB T.R.	PB DISS	AG T.R.	AG DISS	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
03	MILLTOWN-T	26	1110	<0.005	<0.005	0.006	0.006	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
03	MILLTOWN-B																
13	MARCURE-TP	23	1300	<0.005	<0.005	0.003	0.003	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
13	MARCURE-BT																
15	HUSON-TOP	23	1000	<0.005	<0.005	0.003	0.003	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
15	HUSON-BOT	23	1040	<0.005	<0.005	0.003	0.003	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
16	9MILE-TOP	23	0830	<0.005	<0.005	0.003	0.004	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
16	9MILE-BOT																
17	BEL FISH-T	24	1910	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
17	BEL FISH-B	24	1915	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
18	TARKIO-TOP	24	2000	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
18	TARKIO-BOT	24	2005	<0.005	<0.005	0.003	0.003	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
19.5	SUPERIOR-T																
19.5	SUPERIOR-B																
20	LAVISTA-TP	24	1650	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
20	LAVISTA-BT	24	1655	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
20.5	RED HILL-T	24	1600	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
20.5	RED HILL-B																
21	BOXCAR-TOP	24	1420	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
21	BOXCAR-BOT	24	1425	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
21.5	TOOLE-TOP	24	1330	0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
21.5	TOOLE-BOT	24	1335	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
22	AB FHEAD-T	24	1100	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
22	AB FHEAD-B	24	1105	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
26	T FALLS-TP	25	0940	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
26	T FALLS-BT	25	0945	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
28	NOXON-TOP	25	1240	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
28	NOXON-BOT	25	1245	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
30	CAB GORG-T	25	1700	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
30	CAB GORG-B	25	1705	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				

NOTE: ALL VALUES ARE IN MG/L. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND A.S. MEANS ACID SOLUBLE.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON OCT 25-26, 1984

	STATION	DAY	TIME	TOTAL DEPTH	T (C)	PH FLD	PH LAB	SPEC COND	D.O.	HARD	FE T.R.	FE DISS	CU T.R.	CU DISS	ZN T.R.	ZN DISS	MN T.R.	MN DISS
03	MILLTOWN-T	25	1000	9	5.	8.2	8.26	379	10.3	184	0.08	0.02	<0.01	<0.01	0.02	0.02	0.04	0.01
03	MILLTOWN-B	25	1005	9		8.2	8.26	381	10.6		0.15	0.02	0.01	<0.01	0.10	0.02	0.07	0.01
13	MARCURE-TP																	
13	MARCURE-BT																	
15	HUSON-TOP																	
15	HUSON-BOT																	
16	9MILE-TOP																	
16	9MILE-BOT																	
17	BEL FISH-T																	
17	BEL FISH-B																	
18	TARKIO-TOP																	
18	TARKIO-BOT																	
19.5	SUPERIOR-T																	
19.5	SUPERIOR-B																	
20	LAVISTA-TP																	
20	LAVISTA-BT																	
20.5	RED HILL-T																	
20.5	RED HILL-B																	
21	BOXCAR-TOP																	
21	BOXCAR-BOT																	
21.5	TOOLE-TOP																	
21.5	TOOLE-BOT																	
22	AB FHEAD-T																	
22	AB FHEAD-B																	
26	T FALLS-TP	26	1220	28	7.	8.2	8.42	195	11.2	100	0.04	0.02	<0.01	<0.01	0.12	0.08	0.02	0.01
26	T FALLS-BT	26	1225	28	7.	8.2	8.41	199	11.1	100	0.04	0.01	<0.01	<0.01	0.03	0.008	0.02	0.008
28	NOXON-TOP	25	0300	48	6.	8.1	8.45	200	11.4	103	0.04	0.02	<0.01	<0.01	0.005	0.01	0.02	0.02
28	NOXON-BOT	25	0305	48		8.1	8.40	200	11.4	101	0.04	0.02	<0.01	<0.01	<0.005	0.05	0.01	0.05
30	CAB GORG-T	26	0940	29	9.	8.1	8.32	196	9.75	36	0.04	0.01	<0.01	<0.01	<0.005	0.04	0.01	<0.005
30	CAB GORG-B	26	0945	29		8.1	8.31	188	10.0	96	0.36	0.02	<0.01	<0.01	0.01	0.006	0.08	<0.005

NOTE: ALL VALUES ARE IN MG/L EXCEPT DEPTH(FEET), TEMPERATURE(DEG. C), PH(PH UNITS), AND S.C.(UMHOS/CM).
IN THE HEADINGS, "T.R." MEANS TOTAL RECOVERABLE.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON OCT 25-26, 1984

	STATION	DAY	TIME	CD T.R.	CD DISS	AS T.R.	AS DISS	CR T.R.	CR DISS	PB T.R.	PB DISS	AG T.R.	AG DISS	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
03	MILLTOWN-T	25	1000	<0.005	<0.005	0.005	0.005	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
03	MILLTOWN-B	25	1005	<0.005		0.006	0.005	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
13	MARCURE-TP																
13	MARCURE-BT																
15	HUSON-TOP																
15	HUSON-BOT																
16	9MILE-TOP																
16	9MILE-BOT																
17	BEL FISH-T																
17	BEL FISH-B																
18	TARKIO-TOP																
18	TARKIO-BOT																
19.5	SUPERIOR-T																
19.5	SUPERIOR-B																
20	LAVISTA-TP																
20	LAVISTA-BT																
20.5	RED HILL-T																
20.5	RED HILL-B																
21	BOXCAR-TOP																
21	BOXCAR-BOT																
21.5	TOOLE-TOP																
21.5	TOOLE-BOT																
22	AB FHEAD-T																
22	AB FHEAD-B																
26	T FALLS-TP	26	1220	<0.005	<0.005	<0.001	<0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
26	T FALLS-BT	26	1225	<0.005	<0.005	<0.001	<0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
28	NOXON-TOP	25	0300	<0.005	<0.005	<0.001	<0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
28	NOXON-BOT	25	0305	<0.005	<0.005	<0.001	<0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
30	CAB GORG-T	26	0940	<0.005	<0.005	0.001	<0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
30	CAB GORG-B	26	0945	<0.005	<0.005	0.001	<0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				

NOTE: ALL VALUES ARE IN MG/L. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND A.S. MEANS ACID SOLUBLE.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON MARCH 25-26, 1985

	STATION	DAY	TIME	TOTAL DEPTH	T (C)	PH FLD	PH LAB	SPEC COND	D.O.	HARD	FE T.R.	FE DISS	CU T.R.	CU DISS	ZN T.R.	ZN DISS	MN T.R.	MN DISS
03	MILLTOWN-T	25	1130		4.2	7.80	8.18	396	12.0	174	0.19		0.02		0.029		0.06	
03	MILLTOWN-B	25	1200			7.80	8.22	394	12.0	174	0.18		0.02		0.026		0.06	
13	MARCURE-TP																	
13	MARCURE-BT																	
15	HUSON-TOP																	
15	HUSON-BOT																	
16	9MILE-TOP																	
16	9MILE-BOT																	
17	BEL FISH-T																	
17	BEL FISH-B																	
18	TARKIO-TOP																	
18	TARKIO-BOT																	
19.5	SUPERIOR-T																	
19.5	SUPERIOR-B																	
20	LAVISTA-TP																	
20	LAVISTA-BT																	
20.5	RED HILL-T																	
20.5	RED HILL-B																	
21	BOXCAR-TOP																	
21	BOXCAR-BOT																	
21.5	TOOLE-TOP																	
21.5	TOOLE-BOT																	
22	AB FHEAD-T																	
22	AB FHEAD-B																	
26	T FALLS-TP	25	1630		4.7	7.75	8.27	206	11.9	94	0.06		<0.01		0.006		0.02	
26	T FALLS-BT	25	1645			7.75	8.29	207	11.9	94	0.07		<0.01		0.01		0.02	
28	NOXON-TOP	26	1330		5.0	8.05	8.21	219	11.7	95	0.08		<0.01		<0.005		0.02	
28	NOXON-BOT	26	1400			8.05	8.19	207	11.7	95	0.09		<0.01		<0.005		0.02	
30	CAB GORG-T	26	1015		4.2	7.9	8.13	207	11.8	96	0.07		<0.01		<0.005		0.02	
30	CAB GORG-B	26	1045			7.9	8.13	206	11.6	96	0.08		<0.01		0.009		0.02	

NOTE: ALL VALUES ARE IN MG/L EXCEPT DEPTH(FEET), TEMPERATURE(DEG. C), PH(PH UNITS), AND S.C.(UMHOS/CM). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON MARCH 25-26, 1985

	STATION	DAY	TIME	CD T.R.	CD DISS	AS T.R.	AS DISS	CR T.R.	CR DISS	PB T.R.	PB DISS	AG T.R.	AG DISS	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
03	MILLTOWN-T	25	1130	<0.005		0.008				<0.05				0.013	0.0383	0.0009	0.016
03	MILLTOWN-B	25	1200	<0.005		0.006				<0.05				0.015	0.0297	0.0002	0.004
13	MARCURE-TP																
13	MARCURE-BT																
15	HUSON-TOP																
15	HUSON-BOT																
16	9MILE-TOP																
16	9MILE-BOT																
17	BEL FISH-T																
17	BEL FISH-B																
18	TARKIO-TOP																
18	TARKIO-BOT																
19.5	SUPERIOR-T																
19.5	SUPERIOR-B																
20	LAVISTA-TP																
20	LAVISTA-BT																
20.5	RED HILL-T																
20.5	RED HILL-B																
21	BOXCAR-TOP																
21	BOXCAR-BOT																
21.5	TOOLE-TOP																
21.5	TOOLE-BOT																
22	AB FHEAD-T																
22	AB FHEAD-B																
26	T FALLS-TP	25	163[illegible]	0.005		0.001				<0.05				0.002	0.0054	0.0001	0.003
26	T FALLS-BT	25	1645	<0.005		0.001				<0.05				0.003	0.0086	0.0001	0.002
28	NOXON-TOP	26	1331	0.005		0.001				<0.05				0.011	0.0310	0.0007	0.204
28	NOXON-BOT	26	14[illegible]	<0.005		0.001				<0.05				0.003	0.0614	0.0013	0.138
30	CAB GORG-T	26	[illegible]	<0.005		<0.001				<0.05				0.001	0.0041	0.0003	0.003
30	CAB GORG-B	26	1045	<0.005		0.001				<0.05				0.005	0.0091	0.0001	0.074

NOTE: ALL VALUES ARE IN MG/L. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND A.S. MEANS ACID SOLUBLE.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JULY 29-30,1985

	STATION	DAY	TIME	TOTAL DEPTH	T (C)	PH FLD	PH LAB	SPEC COND	D.O.	HARD	FE T.R.	FE DISS	CU T.R.	CU DISS	ZN T.R.	ZN DISS	MN T.R.	MN DISS
03	MILLTOWN-T	27	1130		17.5	7.6	8.13	310	8.0	146	0.08	0.02	<0.01	<0.01	0.028	0.007	0.06	0.06
03	MILLTOWN-B	29	1140		17.0	7.5	8.16	312	7.8	145	0.06	0.02	<0.01	<0.01	0.013	<0.005	0.06	0.06
13	MARCURE-TP																	
13	MARCURE-BT																	
15	HUSON-TOP																	
15	HUSON-BOT																	
16	9MILE-TOP																	
16	9MILE-BOT																	
17	BEL FISH-T																	
17	BEL FISH-B																	
18	TARKIO-TOP																	
18	TARKIO-BOT																	
19.5	SUPERIOR-T																	
19.5	SUPERIOR-B																	
20	LAVISTA-TP																	
20	LAVISTA-BT																	
20.5	RED HILL-T																	
20.5	RED HILL-B																	
21	BOXCAR-TOP																	
21	BOXCAR-BOT																	
21.5	TOOLE-TOP																	
21.5	TOOLE-BOT																	
22	AB FHEAD-T																	
22	AB FHEAD-B																	
26	T FALLS-TP	29	1655		24.0	8.2	8.50	173	8.4	87	0.02	<0.01	<0.01	<0.01	<0.005	<0.005	0.01	<0.005
26	T FALLS-BT	29	1715		23.0	8.3	8.45	173	8.5	87	0.03	<0.01	<0.01	<0.01	<0.005	<0.005	0.01	<0.005
28	NOXON-TOP	30	1120		23.5	8.1	8.49	170	8.5	85	0.01	<0.01	<0.01	<0.01	<0.005	<0.005	0.007	<0.005
28	NOXON-BOT	30	1145		23.0	8.2	8.51	171	7.1	85	0.02	<0.01	<0.01	<0.01	<0.005	<0.005	0.02	<0.005
30	CAB GORG-T	30	0915		21.5	7.6	8.18	169	7.1	84	0.02	<0.01	<0.01	<0.01	<0.005	<0.005	0.02	<0.005
30	CAB GORG-B	30	0930		21.5	7.6	8.08	171	6.7	82	0.12	<0.01	<0.01	<0.01	0.005	<0.005	0.04	0.008

NOTE: ALL VALUES ARE IN MG/L EXCEPT DEPTH(FEET), TEMPERATURE(DEG. C), PH(PH UNITS), AND S.C.(UMHOS/CM).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JULY 29-30,1985

	STATION	DAY	TIME	CD T.R.	CD DISS	AS T.R.	AS DISS	CR T.R.	CR DISS	PB T.R.	PB DISS	AG T.R.	AG DISS	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
03	MILLTOWN-T	27	1130	<0.005	<0.005	0.004	0.004			<0.05	<0.05						
03	MILLTOWN-B	29	1140	<0.005	<0.005	0.005	0.005			<0.05	<0.05						
13	MARCURE-TP																
13	MARCURE-BT																
15	HUSON-TOP																
15	HUSON-BOT																
16	9MILE-TOP																
16	9MILE-BOT																
17	BEL FISH-T																
17	BEL FISH-B																
18	TARKIO-TOP																
18	TARKIO-BOT																
19.5	SUPERIOR-T																
19.5	SUPERIOR-B																
20	LAVISTA-TP																
20	LAVISTA-BT																
20.5	RED HILL-T																
20.5	RED HILL-B																
21	BOXCAR-TOP																
21	BOXCAR-BOT																
21.5	TOOLE-TOP																
21.5	TOOLE-BOT																
22	AB FHEAD-T																
22	AB FHEAD-B																
26	T FALLS-TP	29	1655	<0.005	<0.005	<0.001	<0.001			<0.05	<0.05						
26	T FALLS-BT	29	1715	<0.005	<0.005	<0.001	<0.001			<0.05	<0.05						
28	NOXON-TOP	30	1120	<0.005	0.005	<0.001	<0.001			<0.05	<0.05						
28	NOXON-BOT	30	1145	<0.005	<0.005	<0.001	<0.001			<0.05	<0.05						
30	CAB GORG-T	30	0915	<0.005	<0.005	0.001	0.001			<0.05	<0.05						
30	CAB GORG-B	30	0930	<0.005	<0.005	0.001	0.001			<0.05	<0.05						

NOTE: ALL VALUES ARE IN MG/L. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND A.S. MEANS AC[illegible] SOLUBLE.

TABLE 9

DEEP-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

	STATION		TOTAL DEPTH	T (C)	PH FLD	PH LAB	SPEC COND	D.O.	HRD	FE T.R.	FE DISS	CU T.R.	CU DISS	ZN T.R.	ZN DISS	MN T.R.	MN DISS
03	MILLTOWN-T	MAX:	10	17.5	8.2	8.36	396	13.6	185	[illegible]	0.02	0.02	<0.01	0.029	0.02	0.06	0.06
		MIN:	8	4.2	7.6	7.96	310	8.0	146	[illegible]	0.01	<0.01	<0.01	0.01	0.006	0.02	0.01
		MEAN:	9.	7.8	7.92	8.18	359.	10.42	168.	[illegible]	0.02	0.01	0.01	0.021	0.010	0.042	0.027
		N:	3	4	4	5	5	5	5	5	4	5	4	5	4	5	4
03	MILLTOWN-B	MAX:	9	17.0	8.2	8.31	397	13.3	182	[illegible]	0.02	0.02	<0.01	0.10	0.02	0.07	0.06
		MIN:	8	17.0	7.5	8.16	312	7.8	145	[illegible]	0.02	<0.01	<0.01	0.013	<0.005	0.03	0.01
		MEAN:	9.	17.0	7.83	8.24	371.	10.92	167.	[illegible]	0.02	0.01	0.01	0.040	0.011	0.055	0.030
		N:	2	1	3	4	4	4	3	[illegible]	3	4	3	4	3	4	3
13	MARCURE-TP	MAX:	5	17.5	7.9	8.35	282	13.3	123	[illegible]	0.02	<0.01	<0.01	0.01	0.008	0.06	0.05
		MIN:	3	5.5	7.8	8.05	228	7.7	99	[illegible]	0.02	<0.01	<0.01	0.009	<0.005	0.03	0.03
		MEAN:	4.	11.5	7.85	8.20	255.	10.50	111.	[illegible]	0.02	0.01	0.01	0.010	0.006	0.045	0.040
		N:	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	MARCURE-BT	MAX:															
		MIN:															
		MEAN:	0.	0.0	0.00	0.00	0.	0.00	0.	[illegible]	0.00	0.00	0.00	0.000	0.000	0.000	0.000
		N:	0	0	0	0	0	0	0	[illegible]	0	0	0	0	0	0	0
15	HUSON-TOP	MAX:	22	17.	8.3	8.23	280	12.5	123	[illegible]	0.02	<0.01	<0.01	0.008	0.008	0.04	0.04
		MIN:	18	4.0	8.3	8.22	231	8.7	103	[illegible]	0.02	<0.01	<0.01	0.007	<0.005	0.03	0.02
		MEAN:	20.	10.5	8.30	8.22	256.	10.60	113.	[illegible]	0.02	0.01	0.01	0.008	0.006	0.035	0.030
		N:	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2
15	HUSON-BOT	MAX:	22	17.	8.4	8.27	282	12.1	124	[illegible]	0.02	<0.01	<0.01	0.02	0.007	0.05	0.04
		MIN:	18	17.	8.4	8.24	235	8.7	101	[illegible]	0.02	<0.01	<0.01	0.01	<0.005	0.04	0.02
		MEAN:	20.	17.0	8.40	8.25	259.	10.40	113.	[illegible]	0.02	0.01	0.01	0.015	0.006	0.045	0.030
		N:	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2
16	9MILE-TOP	MAX:	3	18.	7.8	8.24	278	11.8	122	[illegible]	0.02	<0.01	<0.01	0.04	0.009	0.04	0.03
		MIN:	3	4.0	7.8	8.18	226	8.0	102	[illegible]	0.02	<0.01	<0.01	<0.02	<0.005	0.03	0.02
		MEAN:	3.	11.0	7.80	8.21	252.	9.90	112.	[illegible]	0.02	0.01	0.01	0.030	0.007	0.035	0.025
		N:	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2
16	9MILE-BOT	MAX:															
		MIN:															
		MEAN:	0.	0.0	0.00	0.00	0.	0.00	0.	[illegible]	0.00	0.00	0.00	0.000	0.000	0.000	0.000
		N:	0	0	0	0	0	0	0	[illegible]	0	0	0	0	0	0	0

NOTE: ALL VALUES ARE IN MG/L EXCEPT DEPTH(FEET), TEMPERATURE(DEG. C), PH(PH UNITS), AND S.C.(UMHOS/CM).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. SOME FIELD PH VALUES ARE QUESTIONABLE.
VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 10

DEEP-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

	STATION		CD T.R.	CD DISS	AS T.R.	AS DISS	CR T.R.	CR DISS	PB T.R.	PB DISS	AG T.R.	AG DISS	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
03	MILLTOWN-T	MAX:	0.005	<0.005	0.008	0.006	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.013	0.0383	0.0009	0.01[illegible]
		MIN:	0.005	<0.005	0.004	0.004	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.013	0.0383	0.0009	0.01[illegible]
		MEAN:	0.005	0.005	0.006	0.005	0.02	0.02	0.05	0.05	0.01	0.01	0.0130	0.0383	0.0009	0.01[illegible]
		N:	5	4	5	4	3	3	5	4	3	3	1	1	1	1
03	MILLTOWN-B	MAX:	<0.005	<0.005	0.006	0.005	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.015	0.0297	0.0002	0.00[illegible]
		MIN:	<0.005	<0.005	0.005	0.005	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.015	0.0297	0.0002	0.00[illegible]
		MEAN:	0.005	0.005	0.006	0.005	0.02	0.02	0.05	0.05	0.01	0.01	0.0150	0.0297	0.0002	0.00[illegible]
		N:	4	2	4	3	2	2	4	3	2	2	1	1	1	1
13	MARCURE-TP	MAX:	<0.005	<0.005	0.003	0.003	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
		MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
		MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.00[illegible]
		N:	2	2	2	2	2	2	2	2	2	2	0	0	0	0
13	MARCURE-BT	MAX:														
		MIN:														
		MEAN:	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.00[illegible]
		N:	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	HUSON-TOP	MAX:	<0.005	<0.005	0.003	0.003	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
		MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
		MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0[illegible]
		N:	2	2	2	2	2	2	2	2	2	2	0	0	0	0
15	HUSON-BOT	MAX:	<0.005	<0.005	0.003	0.003	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
		MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
		MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.00[illegible]
		N:	2	2	2	2	2	2	2	2	2	2	0	0	0	[illegible]
16	9MILE-TOP	MAX:	<0.005	<0.005	0.003	0.004	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
		MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
		MEAN:	0.005	0.005	0.002	0.003	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.00[illegible]
		N:	2	2	2	2	2	2	2	2	2	2	0	0	0	[illegible]
16	9MILE-BOT	MAX:														
		MIN:														
		MEAN:	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.[illegible]
		N:	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]

NOTE: ALL VALUES ARE IN MG/L. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND A.S. MEANS ACID SOLUBLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 10

DEEP-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

	STATION		TOTAL DEPTH	T (C)	PH FLD	PH LAB	SPEC COND	D.O.	HRD	FE T.R.	FE DISS	CU T.R.	CU DISS	ZN T.R.	ZN DISS	MN T.R.	MN DISS
17	BEL FISH-T	MAX:	50	20.	8.25	8.44	276	12.2	121	0.11	0.02	<0.01	<0.01	0.04	<0.005	0.04	0.02
		MIN:	45	4.0	7.9	8.33	227	9.05	102	0.06	0.02	<0.01	<0.01	<0.005	<0.005	0.02	0.01
		MEAN:	48.	12.0	8.07	8.38	252.	10.63	112.	0.08	0.02	0.01	0.01	0.022	0.005	0.030	0.015
		N:	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	BEL FISH-B	MAX:	50	20.	8.2	8.47	274	12.1	122	0.18	0.02	0.02	<0.01	0.02	0.007	0.04	0.04
		MIN:	45	20.	7.7	8.26	223	9.0	102	0.02	<0.01	<0.01	<0.01	0.008	<0.005	0.03	0.01
		MEAN:	48.	20.0	7.95	8.36	249.	10.55	112.	0.10	0.02	0.02	0.01	0.014	0.006	0.035	0.025
		N:	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2
18	TARKIO-TOP	MAX:	20	20.	8.6	8.46	275	12.3	121	0.12	0.02	<0.01	<0.01	0.008	0.01	0.04	0.03
		MIN:	10	5.0	7.9	8.32	221	9.05	102	0.08	0.02	<0.01	<0.01	0.005	<0.005	0.02	0.01
		MEAN:	15.	12.5	8.25	8.39	248.	10.67	112.	0.10	0.02	0.01	0.01	0.006	0.008	0.030	0.020
		N:	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	TARKIO-BOT	MAX:	20	20.	8.6	8.42	277	12.3	122	0.12	0.02	0.02	<0.01	0.007	0.008	0.04	0.03
		MIN:	10	20.	7.9	8.33	222	9.0	102	0.10	0.02	<0.01	<0.01	<0.005	<0.005	0.03	0.01
		MEAN:	15.	20.0	8.25	8.38	250.	10.65	112.	0.11	0.02	0.02	0.01	0.006	0.006	0.035	0.020
		N:	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2
19.5	SUPERIOR-T	MAX:	27		8.1	8.50	271	13.3	122	0.10	0.01	<0.01	<0.01	0.02	<0.005	0.05	0.02
		MIN:	27		8.1	8.50	271	13.3	122	0.10	0.01	<0.01	<0.01	0.02	<0.005	0.05	0.02
		MEAN:	27.	0.0	8.10	8.50	271.	13.30	122.	0.10	0.01	0.01	0.01	0.020	0.005	0.050	0.020
		N:	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
19.5	SUPERIOR-B	MAX:	27		8.1	8.55	272	13.3	121	0.09	0.02	<0.01	<0.01	<0.005	<0.005	0.03	0.02
		MIN:	27		8.1	8.55	272	13.3	121	0.09	0.02	<0.01	<0.01	<0.005	<0.005	0.03	0.02
		MEAN:	27.	0.0	8.10	8.55	272.	13.30	121.	0.09	0.02	0.01	0.01	0.005	0.005	0.030	0.020
		N:	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
20	LAVISTA-TP	MAX:	14	20.	8.75	8.60	215	10.1	93	0.04	0.02	<0.01	<0.01	<0.007	<0.005	0.01	0.009
		MIN:	14	20.	8.75	8.60	215	10.1	93	0.04	0.02	<0.01	<0.01	<0.007	<0.005	0.01	0.009
		MEAN:	14.	20.0	8.75	8.60	215.	10.10	93.	0.04	0.02	0.01	0.01	0.007	0.005	0.010	0.009
		N:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	LAVISTA-BT	MAX:	14	20.5	8.75	8.58	214	10.0	99	0.06	0.02	0.01	<0.01	0.006	<0.005	0.02	0.005
		MIN:	14	20.5	8.75	8.58	214	10.0	99	0.06	0.02	0.01	<0.01	0.006	<0.005	0.02	0.005
		MEAN:	14.	20.5	8.75	8.58	214.	10.00	99.	0.06	0.02	0.01	0.01	0.006	0.005	0.020	0.005
		N:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

NOTE: ALL VALUES ARE IN MG/L EXCEPT DEPTH(FEET), TEMPERATURE(DEG. C), PH(PH UNITS), AND S.C.(UMHOS/CM).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. SOME FIELD PH VALUES ARE QUESTIONABLE.
VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 10

DEEP-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

STATION		CD T.R.	CD DISS	AS T.R.	AS DISS	CR T.R.	CR DISS	PB T.R.	PB DISS	AG T.R.	AG DISS	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
17 BEL FISH-T	MAX:	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	2	2	2	2	2	2	2	2	2	2	0	0	0	0
17 BEL FISH-B	MAX:	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	2	2	2	2	2	2	2	2	2	2	0	0	0	0
18 TARKIO-TOP	MAX:	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	2	2	2	2	2	2	2	2	2	2	0	0	0	0
18 TARKIO-BOT	MAX:	<0.005	<0.005	0.003	0.003	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	2	2	2	2	2	2	2	2	2	2	0	0	0	0
19.5 SUPERIOR-T	MAX:	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.003	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0
19.5 SUPERIOR-B	MAX:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0
20 LAVISTA-TP	MAX:	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.003	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0
20 LAVISTA-BT	MAX:	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.003	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.003	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	[illegible]	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	[illegible]	0	0

NOTE: ALL VALUES ARE IN MG/L. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND A.S. MEANS ACID SOLUBLE.
VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 10

DEEP-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

STATION		TOTAL DEPTH	T (C)	PH FLD	PH LAB	SPEC COND	D.O.	HRD	FE T.R.	FE DISS	CU T.R.	CU DISS	ZN T.R.	ZN DISS	MN T.R.	MN DISS
20.5 RED HILL-T	MAX:	6	20.	8.6	8.55	218	9.8	100	0.06	0.01	<0.01	<0.01	0.04	<0.005	0.02	0.008
	MIN:	6	20.	8.6	8.55	218	9.8	100	0.06	0.01	<0.01	<0.01	0.04	<0.005	0.02	0.008
	MEAN:	6.	20.0	8.60	8.55	218.	9.80	100.	0.06	0.01	0.01	0.01	0.040	0.005	0.020	0.008
	N:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20.5 RED HILL-B	MAX:															
	MIN:															
	MEAN:	0.	0.0	0.00	0.00	0.	0.00	0.	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.000
	N:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 BOXCAR-TOP	MAX:	21	19.	8.6	8.47	205	9.6	93	0.06	0.02	0.01	0.02	0.09	0.006	0.03	0.005
	MIN:	21	19.	8.6	8.47	205	9.6	93	0.06	0.02	0.01	0.02	0.09	0.006	0.03	0.005
	MEAN:	21.	19.0	8.60	8.47	205.	9.60	93.	0.06	0.02	0.01	0.02	0.090	0.006	0.030	0.005
	N:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21 BOXCAR-BOT	MAX:	21	19.	8.55	8.45	215		101	0.05	0.01	<0.01	<0.01	0.007	0.007	0.01	0.005
	MIN:	21	19.	8.55	8.45	215		101	0.05	0.01	<0.01	<0.01	0.007	0.007	0.01	0.005
	MEAN:	21.	19.0	8.55	8.45	215.	0.00	101.	0.05	0.01	0.01	0.01	0.007	0.007	0.010	0.005
	N:	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
21.5 TOOLE-TOP	MAX:	17	19.5	8.45	8.37	222	8.7	100	0.06	0.04	0.01	0.02	0.02	0.008	0.02	0.05
	MIN:	17	19.5	8.45	8.37	222	8.7	100	0.06	0.04	0.01	0.02	0.02	0.008	0.02	0.05
	MEAN:	17.	19.5	8.45	8.37	222.	8.70	100.	0.06	0.04	0.01	0.02	0.020	0.008	0.020	0.050
	N:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21.5 TOOLE-BOT	MAX:	17	19.5	8.55	8.48	208	8.7	94	0.08	0.02	0.02	0.01	0.01	0.006	0.02	0.01
	MIN:	17	19.5	8.55	8.48	208	8.7	94	0.08	0.02	0.02	0.01	0.01	0.006	0.02	0.01
	MEAN:	17.	19.5	8.55	8.48	208.	8.70	94.	0.08	0.02	0.02	0.01	0.010	0.006	0.020	0.010
	N:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22 AB FHEAD-T	MAX:	20	18.5	8.4	8.52	210	8.6	98	0.05	0.02	0.01	0.01	0.01	0.006	0.01	0.007
	MIN:	20	18.5	8.4	8.52	210	8.6	98	0.05	0.02	0.01	0.01	0.01	0.006	0.01	0.007
	MEAN:	20.	18.5	8.40	8.52	210.	8.60	98.	0.05	0.02	0.01	0.01	0.010	0.006	0.010	0.007
	N:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22 AB FHEAD-B	MAX:	20	19.		8.47	217	8.5	98	0.06	0.02	0.02	0.01	0.04	0.005	0.02	<0.005
	MIN:	20	19.		8.47	217	8.5	98	0.06	0.02	0.02	0.01	0.04	0.005	0.02	<0.005
	MEAN:	20.	19.0	0.00	8.47	217.	8.50	98.	0.06	0.02	0.02	0.01	0.040	0.005	0.020	0.005
	N:	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1

NOTE: ALL VALUES ARE IN MG/L EXCEPT DEPTH(FEET), TEMPERATURE(DEG. C), PH(PH UNITS), AND S.C.(UMHOS/CM).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. SOME FIELD PH VALUES ARE QUESTIONABLE.
VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 10

DEEP-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

STATION		CD T.R.	CD DISS	AS T.R.	AS DISS	CR T.R.	CR DISS	PB T.R.	PB DISS	AG T.R.	AG DISS	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
20.5 RED HILL-T	MAX:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0
20.5 RED HILL-B	MAX:														
	MIN:														
	MEAN:	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
	N:	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 BOXCAR-TOP	MAX:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0
21 BOXCAR-BOT	MAX:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0
21.5 TOOLE-TOP	MAX:	0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0
21.5 TOOLE-BOT	MAX:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0
22 AB FHEAD-T	MAX:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0
22 AB FHEAD-B	MAX:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MIN:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01				
	MEAN:	0.005	0.005	0.002	0.002	0.02	0.02	0.05	0.05	0.01	0.01	0.0000	0.0000	0.0000	0.0000
	N:	1	1	1	1	1	1	1	1	1	1	0	0	0	0

NOTE: ALL VALUES ARE IN MG/L. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND A.S. MEANS ACID SOLUBLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 10

DEEP-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

	STATION		TOTAL DEPTH	T (C)	PH FLD	PH LAB	SPEC COND	D.O.	HRD	FE T.R.	FE DISS	CU T.R.	CU DISS	ZN T.R.	ZN DISS	MN T.R.	MN DISS
26	T FALLS-TP	MAX:	40	24.0	8.2	8.50	206	12.3	100	0.06	0.02	<0.01	0.02	0.12	0.08	0.02	0.01
		MIN:	17	4.0	7.75	8.27	173	8.3	87	0.02	<0.01	<0.01	<0.01	<0.005	<0.005	0.01	<0.005
		MEAN:	28.	12.2	8.03	8.39	193.	10.42	93.	0.04	0.01	0.01	0.01	0.037	0.024	0.016	0.008
		N:	3	5	5	5	5	5	5	5	4	5	4	5	4	5	4
26	T FALLS-BT	MAX:	40	23.0	8.35	8.45	207	11.9	100	0.07	0.02	0.01	0.01	0.03	0.008	0.02	0.008
		MIN:	28	7.	7.75	8.29	173	8.4	87	0.03	0.01	0.01	0.01	<0.005	<0.005	0.01	<0.005
		MEAN:	34.	17.2	8.15	8.40	192.	9.97	93.	0.04	0.01	0.01	0.01	0.013	0.006	0.015	0.006
		N:	2	3	4	4	4	4	4	4	3	4	3	4	3	4	3
28	NOXON-TOP	MAX:	48	23.6	8.25	8.49	219	12.3	103	0.08	0.02	<0.01	<0.01	0.02	0.01	0.05	0.02
		MIN:	22	4.0	7.7	8.21	170	8.4	85	0.01	<0.01	<0.01	<0.01	0.005	<0.005	0.007	<0.005
		MEAN:	37.	12.4	8.04	8.37	192.	10.46	91.	0.05	0.01	0.01	0.01	0.009	0.006	0.023	0.010
		N:	3	5	5	5	5	5	5	5	4	5	4	5	4	5	4
28	NOXON-BOT	MAX:	48	23.0	8.2	8.51	207	12.4	101	0.09	0.02	<0.01	<0.01	0.03	0.05	0.04	0.05
		MIN:	22	20.8	7.8	8.19	171	7.1	83	0.02	<0.01	<0.01	<0.01	<0.005	<0.005	0.01	<0.005
		MEAN:	37.	21.9	8.04	8.34	191.	9.94	91.	0.05	0.01	0.01	0.01	0.010	0.017	0.022	0.018
		N:	3	2	5	5	5	5	5	5	4	5	4	5	4	5	4
30	CAB GORG-T	MAX:	29	21.5	8.2	8.42	207	12.8	96	0.07	0.01	0.02	0.02	<0.005	0.04	0.02	0.006
		MIN:	27	3.0	7.6	8.13	167	7.1	36	0.02	0.01	<0.01	<0.01	<0.005	<0.005	0.01	<0.005
		MEAN:	28.	11.8	7.92	8.27	187.	10.01	77.	0.04	0.01	0.01	0.01	0.005	0.014	0.016	0.005
		N:	3	5	5	5	5	5	5	5	4	5	4	5	4	5	4
30	CAB GORG-B	MAX:	29	21.5	8.2	8.34	206	12.8	96	0.36	0.02	<0.01	<0.01	0.02	0.006	0.08	0.008
		MIN:	27	21.	7.1	8.08	166	6.7	79	0.03	<0.01	<0.01	<0.01	<0.005	<0.005	0.01	0.005
		MEAN:	28.	21.3	7.78	8.23	185.	9.92	89.	0.13	0.01	0.01	0.01	0.010	0.005	0.034	0.006
		N:	3	2	5	5	5	5	5	5	4	5	4	5	4	5	4

NOTE: ALL VALUES ARE IN MG/L EXCEPT DEPTH(FEET), TEMPERATURE(DEG. C), PH(PH UNITS), AND S.C.(UMHOS/CM).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE. SOME FIELD PH VALUES ARE QUESTIONABLE.
VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 10

DEEP-WATER CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

	STATION		CD T.R.	CD DISS	AS T.R.	AS DISS	CR T.R.	CR DISS	PB T.R.	PB DISS	AG T.R.	AG DISS	CU A.S.	ZN A.S.	CD A.S.	PB A.S.
26	T FALLS-TP	MAX:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.002	0.0054	0.0001	0.003
		MIN:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.002	0.0054	0.0001	0.003
		MEAN:	0.005	0.005	0.001	0.001	0.02	0.02	0.05	0.05	0.01	0.01	0.0020	0.0054	0.0001	0.0030
		N:	5	4	5	4	3	3	5	4	3	3	1	1	1	1
26	T FALLS-BT	MAX:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.003	0.0086	0.0001	0.002
		MIN:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.003	0.0086	0.0001	0.002
		MEAN:	0.005	0.005	0.001	0.001	0.02	0.02	0.05	0.05	0.01	0.01	0.0030	0.0086	0.0001	0.0020
		N:	4	3	4	3	2	2	4	3	2	2	1	1	1	1
28	NOXON-TOP	MAX:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.011	0.0310	0.0007	0.204
		MIN:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.011	0.0310	0.0007	0.204
		MEAN:	0.005	0.005	0.001	0.001	0.02	0.02	0.05	0.05	0.01	0.01	0.0110	0.0310	0.0007	0.2040
		N:	5	4	5	4	3	3	5	4	3	3	1	1	1	1
28	NOXON-BOT	MAX:	<0.005	<0.005	0.002	0.002	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.003	0.0614	0.0013	0.138
		MIN:	<0.005	<0.005	<0.001	<0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.003	0.0614	0.0013	0.138
		MEAN:	0.005	0.005	0.001	0.001	0.02	0.02	0.05	0.05	0.01	0.01	0.0030	0.0614	0.0013	0.1380
		N:	5	4	5	4	3	3	5	4	3	3	1	1	1	1
30	CAB GORG-T	MAX:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.001	0.0041	0.0003	0.003
		MIN:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.001	0.0041	0.0003	0.003
		MEAN:	0.005	0.005	0.001	0.001	0.02	0.02	0.05	0.05	0.01	0.01	0.0010	0.0041	0.0003	0.0030
		N:	5	4	5	4	3	3	5	4	3	3	1	1	1	1
30	CAB GORG-B	MAX:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.005	0.0091	0.0001	0.074
		MIN:	<0.005	<0.005	0.001	0.001	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	0.005	0.0091	0.0001	0.074
		MEAN:	0.005	0.005	0.001	0.001	0.02	0.02	0.05	0.05	0.01	0.01	0.0050	0.0091	0.0001	0.0740
		N:	5	4	5	4	3	3	5	4	3	3	1	1	1	1

NOTE: ALL VALUES ARE IN MG/L. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND A.S. MEANS ACID SOLUBLE. VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 10

3. Bottom Sediments

a. Rationale

In light of the quantities of heavy metals in the sediments behind Milltown Dam, it is reasonable to assume that there are elevated levels of heavy metals in the sediments of downstream pools and reservoirs. Comparing the organic content of sediments from behind Milltown Dam to those of still, deep waters downstream may indicate whether there is appreciable deposition and accumulation of organic solids originating from the Missoula wastewater treatment plant, Champion International, terrestrial or instream sources (algae production).

b. Methods

Samples of sediment were collected with a Petite Ponar Grab (bottom dredge) from the same 15 pools and reservoirs sampled for bottom and surface grabs. Sediments were analyzed for total and acid-leachable concentrations of heavy metals and percent organic content.

Sample collection and analysis methods are summarized in Table 11.

c. Results

Reservoir and river pool sediment analysis data are given in Table 12. A statistical summary of the results is presented in Table 13.

Table 11. Sample Collection and Analysis Methods for Bottom Sediment Monitoring

Variable	Collection Method	Analytical Method	Laboratory
Organic Content (%) (PVDWS)	Petite Ponar grab sample	APHA 208 G. [1]	MDHES Chem lab
Acid-Leachable and Total Metals (ug/g)	Petite Ponar grab sample	Sample preparation prior to analysis described in Appendix B.	MDHES Chem lab
Iron (FE T.R., FE TOT)		EPA 200.7 [2]	
Copper (CU T.R., CU TOT)		EPA 200.7 [2]	
Manganese (MN T.R., MN TOT)		EPA 200.7 [2]	
Cadmium (CD T.R., CD TOT)		EPA 200.7 [2]	
Arsenic (AS T.R., AS TOT)		EPA 200.7 [2]	
Chromium (CR T.R., CR TOT)		EPA 200.7 [2]	
Lead (PB T.R., PB TOT)		EPA 200.7 [2]	
Silver (AG T.R., AG TOT)		EPA 200.7 [2]	

References

1) "Standard Methods for the Examination of Water and Wastewater," Joint Editorial Board, American Public Health Association, American Water Works Association and Water Pollution Control Federation, 15th Edition, 1981.

2) "Methods for Chemical Analysis of Water and Waste," EPA-600/4-79-020 U.S. Environmental Protection Agency, 1983 (Revised).

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON MARCH 5-8, 1984

	STATION	DAY	DEPTH	PVDWS	FE T.R.	FE TOT	CU T.R.	CU TOT	ZN T.R.	ZN TOT	MN T.R.	MN TOT
03	MILLTOWN	05	8	1.0	2290.	5543.	55.	51.6	251.	277.	174.	292.
				0.2	2510.	4451.	49.	52.9	246.	269.	181.	218.
				0.4	3660.	6665.	120.	115.	447.	458.	336.	313.
13	MARCURE	06	3	0.35	2670.	5064.	38.	24.8	123.	132.	262.	236.
			3	0.5	2400.	5131.	38.	35.6	113.	129.	215.	249.
			3	0.4	3170.	4710.	68.	28.5	141.	135.	311.	260.
15	HUSON											
16	NINEMILE	06	3	0.7	2410.	7632.	55.	117.	140.	251.	219.	602.
			3	0.7	2440.	5544.	50.	54.6	127.	147.	190.	284.
			3	0.8	4390.	6820.	162.	167.	362.	339.	519.	447.
17	BEL FISH C											
18	TARKIO	07	15	0.2	1840.	3981.	10.	<2.6	42.	55.3	199.	303.
19.5	SUPERIOR	07	25	1.1	4010.	7598.	90.	114.	211.	251.	431.	508.
			25	0.7	3700.	6583.	63.	42.	182.	161.	324.	247.
20	LAVISTA											
20.5	RED HILL											
21	BOXCAR											
21.5	TOOLE											
22	ABV FLHEAD											
26	T FALLS	08	57	0.6	3960.	9583.	55.	108.	129.	230.	270.	329.
			20	1.9	7540.	12100.	175.	150.	353.	321.	904.	802.
			17	1.6	6470.	12600.	146.	149.	297.	313.	840.	795.
28	NOXON	08	22	1.6	5740.	14400.	63.	65.7	114.	162.	235.	377.
30	CAB GORGE	08	25	0.4	3340.	8224.	<5.	<2.4	<5.	26.0	202.	163.
			27	0.6	4070.	8918.	3.	<2.4	<5.	31.8	198.	252.
			43	1.1	5400.	11300.	34.	28.6	134.	156.	428.	587.

NOTE: ALL VALUES ARE IN UG/G EXCEPT DEPTH(FEET) AND PERCENT VOLATILE DRY WEIGHT SOLIOS (%).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON MARCH 5-8, 1984

	STATION	DAY	CD T.R.	CD TOT	AS T.R.	AS TOT	CR T.R.	PB T.R.	PB TOT	AG T.R.
03	MILLTOWN	05	<5.	<1.2	6.	0.6	<20.	<50.		<10.
			<5.	<1.1	5.	2.2	<20.	<50.		<10.
			<5.	<1.1	10.	2.6	<20.	<50.		<10.
13	MARCURE	06	<5.	<1.2	4.	2.5	<20.	<50.		<10.
			<5.	<1.1	4.	2.6	<20.	<50.		<10.
			<5.	<1.2	4.	3.1	<20.	<50.		<10.
15	HUSON									
16	NINEMILE	06	<5.	<1.1	4.	2.3	<20.	<50.		<10.
			<5.	<1.1	5.	2.1	<20.	<50.		<10.
			<5.	<1.2	16.	2.2	<20.	<50.		<10.
17	BEL FISH C									
18	TARKIO	07	<5.	<1.3	1.	2.4	<20.	<50.		<10.
19.5	SUPERIOR	07	<5.	<1.3	6.	3.1	<20.	<50.		<10.
			<5.	<1.2	5.	3.0	<20.	<50.		<10.
20	LAVISTA									
20.5	RED HILL									
21	BOXCAR									
21.5	TOOLE									
22	ABV FLHEAD									
26	T FALLS	08	<5.	<1.3	5.	3.4	<20.	<50.		<10.
			<5.	<1.4	15.	3.4	<20.	<50.		<10.
			<5.	<1.2	11.	2.8	<20.	<50.		<10.
28	NOXON	08	<5.	<1.2	3.	3.0	<20.	<50.		<10.
30	CAB GORGE	08	<5.	<1.2	1.	3.4	<20.	<50.		<10.
			<5.	<1.2	1.	2.7	<20.	<50.		<10.
			<5.	<1.2	4.	2.8	<20.	<50.		<10.

NOTE: ALL VALUES ARE IN UG/G. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JULY 23-26, 1984

	STATION	DAY	DEPTH	PVDWS	FE T.R.	FE TOT	CU T.R.	CU TOT	ZN T.R.	ZN TOT	MN T.R.	MN TOT
03	MILLTOWN											
13	MARCURE	23	4	0.13	1460.	3928.	10.	13.1	59.	65.3	150.	146.
15	HUSON											
16	NINEMILE	23	6	0.24	1980.	5631.	30.	37.4	104.	119.	130.	169.
			6	0.14	1140.	4724.	10.	16.3	56.	70.2	120.	150.
17	BEL FISH C	24	3	0.10	1190.	5235.	<10.	13.2	42.	48.7	100.	139.
18	TARKIO	24	20	0.39	2040.	6917.	30.	62.7	100.	138.	160.	213.
19.5	SUPERIOR											
20	LAVISTA											
20.5	RED HILL	19	12	0.17	1940.	6915.	20.	17.5	74.	80.2	160.	180.
21	BOXCAR	19	8	0.11	1050.	4300.	<10.	13.1	30.	37.2	120.	149.
			8	0.10	1170.	4444.	<10.	4.6	40.	29.1	120.	137.
			8	0.10	1220.	4770.	<10.	4.4	35.	39.4	120.	147.
			8	0.18	1130.	5165.	<10.	4.9	30.	36.5	110.	138.
21.5	TOOLE	20	18	0.15	1360.	6749.	<10.	4.9	45.	49.4	160.	200.
			32	0.10	1270.	4436.	<10.	5.3	38.	37.4	120.	138.
			28	0.10	1190.	4087.	<10.	4.8	38.	40.7	110.	134.
			5	0.42	2280.	5135.	20.	21.2	93.	90.2	160.	159.
			15	0.32	1760.	5389.	20.	21.8	71.	96.0	120.	162.
22	ABV FLHEAD	20	3	0.55	2440.	5935.	30.	34.0	120.	115.	220.	217.
26	T FALLS											
28	NOXON											
30	CAB GORGE											

NOTE: ALL VALUES ARE IN UG/G EXCEPT DEPTH(FEET) AND PERCENT VOLATILE DRY WEIGHT SOLIDS (%).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.
SOME OF THE SAMPLES IN THIS SET WERE COLLECTED BY U. OF MONTANA PERSONELL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JULY 23-26, 1984

	STATION	DAY	CD T.R.	CD TOT	AS T.R.	AS TOT	CR T.R.	PB T.R.	PB TOT	AG T.R.
03	MILLTOWN									
13	MARCURE	23	<5.	<1.2	1.	1.3				
15	HUSON									
16	NINEMILE	23	<5.	<1.2	2.	2.1				
			<5.	<1.2	1.	2.1				
17	BEL FISH C	24	<5.	<1.2	1.	2.2				
18	TARKIO	24	<5.	<1.2	2.	2.6				
19.5	SUPERIOR									
20	LAVISTA									
20.5	RED HILL	19	<5.	<1.2	2.	3.0				
21	BOXCAR	19	<5.	<1.2	<1.	1.3				
			<5.	<1.2	<1.	1.6				
			<5.	<1.2	1.	1.3				
			<5.	<1.2	<1.	2.9				
21.5	TOOLE	20	<5.	<1.3	1.	3.3				
			<5.	<1.2	<1.	4.1				
			<5.	<1.2	1.	3.3				
			<5.	<1.3	2.	3.0				
			<5.	<1.1	2.	2.2				
22	ABV FLHEAD	20	<5.	<1.1	3.	2.7				
26	T FALLS									
28	NOXON									
30	CAB GORGE									

NOTE: ALL VALUES ARE IN UG/G. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL. SOME OF THE SAMPLES IN THIS SET WERE COLLECTED BY U. OF MONTANA PERSONELL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON OCT 25-26, 1984

	STATION	DAY	DEPTH	PVDWS	FE T.R.	FE TOT	CU T.R.	CU TOT	ZN T.R.	ZN TOT	MN T.R.	MN TOT
03	MILLTOWN	25	9	0.67	2010.	6090.	90.	90.6	351.	332.	290.	244.
			9	0.41	2530.	5160.	60.	73.6	314.	289.	200.	197.
			9	0.58	2280.	5025.	100.	69.6	390.	296.	270.	174.
13	MARCURE											
15	HUSON											
16	NINEMILE											
17	BEL FISH C											
18	TARKIO											
19.5	SUPERIOR											
20	LAVISTA											
20.5	RED HILL											
21	BOXCAR											
21.5	TOOLE											
22	ABV FLHEAD											
26	T FALLS	26	32	0.93	2420.	7457.	80.	87.7	203.	202.	210.	200.
			32	0.23	1600.	3811.	10.	7.0	59.	48.8	60.	62.8
			32	2.98	1650.	3955.	20.	9.6	63.	57.8	100.	96.3
28	NOXON	25	48	1.48	5070.	13740.	120.	138.	257.	291.	370.	429.
			48	1.29	4910.	13730.	110.	140.	247.	285.	370.	393.
			48	1.42	5340.	13090.	120.	129.	283.	288.	420.	406.
			38	1.20	5880.	15260.	140.	144.	287.	297.	440.	462.
			38	1.50	5990.	19000.	150.	174.	300.	346.	420.	490.
			38	1.16	6040.	16300.	140.	144.	279.	302.	420.	478.
30	CAB GORGE	26	29	1.64	3490.	9567.	20.	18.9	96.	99.4	320.	277.
			29	1.03	2600.	11690.	20.	<2.7	59.	73.8	220.	219.
			29	1.34	3970.	10450.	30.	27.6	118.	132.	270.	266.

NOTE: ALL VALUES ARE IN UG/G EXCEPT DEPTH(FEET) AND PERCENT VOLATILE DRY WEIGHT SOLIDS (%).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON OCT 25-26, 1984

	STATION	DAY	CD T.R.	CD TOT	AS T.R.	AS TOT	CR T.R.	PB T.R.	PB TOT	AG T.R.
03	MILLTOWN	25	<5.	<1.2	8.	2.6				
			<5.	<1.3	7.	2.7				
			6.	<1.2	10.	2.7				
13	MARCURE									
15	HUSON									
16	NINEMILE									
17	BEL FISH C									
18	TARKIO									
19.5	SUPERIOR									
20	LAVISTA									
20.5	RED HILL									
21	BOXCAR									
21.5	TOOLE									
22	ABV FLHEAD									
26	T FALLS	26	<5.	<1.2	6.	3.1				
			<5.	<1.2	1.	2.3				
			<5.	<1.2	1.	2.7				
28	NOXON	25	7.	<1.2	6.	2.7				
			6.	<1.3	7.	3.3				
			6.	<1.4	8.	2.4				
			7.	<1.2	7.	2.4				
			7.	<1.2	8.	0.7				
			7.	<1.2	6.	3.1				
30	CAB GORGE	26	<5.	<1.2	3.	2.1				
			<5.	<1.3	2.	2.7				
			<5.	<1.2	4.	2.7				

NOTE: ALL VALUES ARE IN UG/G. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON MARCH 25-26, 1985

	STATION	DAY	DEPTH	PVDWS	FE T.R.	FE TOT	CU T.R.	CU TOT	ZN T.R.	ZN TOT	MN T.R.	MN TOT
03	MILLTOWN	25			5600.	9644.	260.	270.	740.	725.	700.	652.
					6910.	10490.	360.	363.	950.	819.	940.	812.
					6190.	9743.	290.	274.	820.	704.	780.	647.
13	MARCURE											
15	HUSON											
16	NINEMILE											
17	BEL FISH C											
18	TARKIO											
19.5	SUPERIOR											
20	LAVISTA											
20.5	RED HILL											
21	BOXCAR											
21.5	TOOLE											
22	ABV FLHEAD											
26	T FALLS	25			4810.	9891.	60.	65.9	164.	166.	250.	266.
					2550.	6583.	20.	30.4	74.	94.7	110.	147.
					4080.	6654.	40.	37.6	132.	106.	200.	163.
28	NOXON	26			7160.	14150.	80.	85.2	202.	211.	350.	358.
					7190.	14060.	80.	81.5	203.	201.	400.	385.
					9640.	17240.	160.	158.	348.	346.	610.	565.
					9340.	17840.	160.	174.	361.	367.	580.	572.
					9720.	16970.	170.	172.	364.	372.	630.	597.
30	CAB GORGE	26			4270.	6650.	20.	8.6	104.	69.1	590.	254.
					3410.	12000.	<10.	14.0	85.	118.	290.	500.
					3130.	8910.	<10.	2.0	71.	72.9	290.	334.

NOTE: ALL VALUES ARE IN UG/G EXCEPT DEPTH(FEET) AND PERCENT VOLATILE DRY WEIGHT SOLIDS (%). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON MARCH 25-26, 1985

	STATION	DAY	CD T.R.	CD TOT	AS T.R.	AS TOT	CR T.R.	PB T.R.	PB TOT	AG T.R.
03	MILLTOWN	25	<5.	1.5	26.	31.6		60.	49.8	
			<5.	<1.5	36.	39.6		80.	58.7	
			<5.	<1.5	28.	30.4		70.	35.5	
13	MARCURE									
15	HUSON									
16	NINEMILE									
17	BEL FISH C									
18	TARKIO									
19.5	SUPERIOR									
20	LAVISTA									
20.5	RED HILL									
21	BOXCAR									
21.5	TOOLE									
22	ABV FLHEAD									
26	T FALLS	25	<5.	<1.5	5.	5.5		<50.	18.8	
			<5.	<1.5	1.	3.4		<50.	<12.0	
			<5.	<1.5	2.	4.2		<50.	<12.0	
28	NOXON	26	<5.	<1.5	6.	9.2		<50.	25.6	
			<5.	<1.5	6.	9.5		<50.	17.0	
			<5.	<1.5	9.	12.6		60.	31.0	
			<5.	<1.5	10.	12.7		70.	31.3	
			<5.	<1.5	9.	13.2		80.	34.4	
30	CAB GORGE	26	<5.	<1.5	4.	3.6		<50.	<12.0	
			<5.	<1.5	2.	7.0		<50.	<12.0	
			<5.	<1.5	2.	4.0		<50.	<12.0	

NOTE: ALL VALUES ARE IN UG/G. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART I
RESULTS OF SAMPLES TAKEN ON JULY 29-30,1985

	STATION	DAY	DEPTH	PVDWS	FE T.R.	FE TOT	CU T.R.	CU TOT	ZN T.R.	ZN TOT	MN T.R.	MN TOT
03	MILLTOWN	29			6500.	13510.	460.	495.	1060.	1027.	1040.	1018.
					6240.	12300.	430.	441.	991.	973.	1080.	1027.
					5620.	[illegible]	360.	405.	925.	914.	820.	827.
13	MARCURE											
15	HUSON											
16	NINEMILE											
17	BEL FISH C											
18	TARKIO											
19.5	SUPERIOR											
20	LAVISTA											
20.5	RED HILL											
21	BOXCAR											
21.5	TOOLE											
22	ABV FLHEAD											
26	T FALLS	29			3130.	[illegible]	30.	29.3	101.	102.	100.	119.
					4680.	[illegible]	70.	65.8	158.	150.	190.	198.
28	NOXON	30			6430.	[illegible]	90.	89.7	224.	226.	490.	460.
					6410.	[illegible]	100.	105.	222.	233.	270.	298.
					5560.	[illegible]	90.	135.	237.	274.	130.	162.
					7850.	[illegible]	140.	149.	317.	325.	470.	470.
					7380.	[illegible]	140.	146.	300.	309.	410.	422.
30	CAB GORGE	30			5570.	[illegible]	40.	49.3	197.	213.	300.	301.
					5540.	[illegible]	40.	49.8	197.	205.	300.	305.
					5340.	[illegible]	40.	49.9	201.	203.	290.	301.

NOTE: ALL VALUES ARE IN UG/G EXCEPT DEPTH(FEET) AND PERCENT VOLATILE DRY WEIGHT SOLIDS (%). IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING RESULTS - PART II
RESULTS OF SAMPLES TAKEN ON JULY 29-30,1985

	STATION	DAY	CD T.R.	CD TOT	AS T.R.	AS TOT	CR T.R.	PB T.R.	PB TOT	AG T.R.
03	MILLTOWN	29	6.	5.6	44.	45.2		50.	77.2	
			<5.	4.3	41.	49.2		50.	83.4	
			<5.	4.1	36.	43.6		80.	64.9	
13	MARCURE									
15	HUSON									
16	NINEMILE									
17	BEL FISH C									
18	TARKIO									
19.5	SUPERIOR									
20	LAVISTA									
20.5	RED HILL									
21	BOXCAR									
21.5	TOOLE									
22	ABV FLHEAD									
26	T FALLS	29	<5.	<2.0	2.	3.1		<50.	23.5	
			<5.	<2.0	4.	5.2		<50.	23.2	
28	NOXON	30	<5.	<2.0	5.	4.5		<50.	27.3	
			<5.	<2.0	4.	3.2		<50.	30.3	
			<5.	<2.0	3.	4.3		<50.	28.5	
			<5.	<2.0	8.	11.2		<50.	39.3	
			<5.	<2.0	9.	7.7		<50.	39.6	
30	CAB GORGE	30	<5.	<2.0	5.	6.2		<50.	22.9	
			<5.	<2.0	5.	7.7		<50.	24.9	
			<5.	<2.0	5.	7.4		<50.	18.5	

NOTE: ALL VALUES ARE IN UG/G. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.

TABLE 12

SEDIMENT CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

	STATION		DEPTH	PVDWS	FE T.R.	FE TOT	CU T.R.	CU TOT	ZN T.R.	ZN TOT	MN T.R.	MN TOT
03	MILLTOWN	MAX:	9	1.0	6910.	13510.	460.	495.	1060.	1027.	1080.	1027.
		MIN:	8	0.2	2010.	4451.	49.	51.6	246.	269.	174.	174.
		MEAN:	9.	0.54	4361.7	8413.4	219.5	225.1	623.7	590.2	567.6	535.1
		N:	4	6	12	12	12	12	12	12	12	12
13	MARCURE	MAX:	4	0.5	3170.	5131.	68.	35.6	141.	135.	311.	260.
		MIN:	3	0.13	1460.	3928.	10.	13.1	59.	65.3	150.	146.
		MEAN:	3.	0.34	2425.0	4708.2	38.5	25.5	109.0	115.3	234.5	222.7
		N:	4	4	4	4	4	4	4	4	4	4
15	HUSON	MAX:										
		MIN:										
		MEAN:	0.	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		N:	0	0	0	0	0	0	0	0	0	0
16	NINEMILE	MAX:	6	0.8	4390.	7632.	162.	167.	362.	339.	519.	602.
		MIN:	3	0.14	1140.	4724.	10.	16.3	56.	70.2	120.	150.
		MEAN:	4.	0.52	2472.0	6070.2	61.4	78.5	157.8	185.2	235.6	330.4
		N:	5	5	5	5	5	5	5	5	5	5
17	BEL FISH C	MAX:	3	0.10	1190.	5235.	<10.	13.2	42.	48.7	100.	139.
		MIN:	3	0.10	1190.	5235.	<10.	13.2	42.	48.7	100.	139.
		MEAN:	3.	0.10	1190.0	5235.0	10.0	13.2	42.0	48.7	100.0	139.0
		N:	1	1	1	1	1	1	1	1	1	1
18	TARKIO	MAX:	20	0.39	2040.	6917.	30.	62.7	100.	138.	199.	303.
		MIN:	15	0.2	1840.	3981.	10.	<2.6	42.	55.3	160.	213.
		MEAN:	18.	0.29	1940.0	5449.0	20.0	32.6	71.0	96.6	179.5	258.0
		N:	2	2	2	2	2	2	2	2	2	2
19.5	SUPERIOR	MAX:	25	1.1	4010.	7598.	90.	114.	211.	251.	431.	508.
		MIN:	25	0.7	3700.	6583.	63.	42.	182.	161.	324.	247.
		MEAN:	25.	0.90	3855.0	7090.5	76.5	78.0	196.5	206.0	377.5	377.5
		N:	2	2	2	2	2	2	2	2	2	2
20	LAVISTA	MAX:										
		MIN:										
		MEAN:	0.	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		N:	0	0	0	0	0	0	0	0	0	0

NOTE: ALL VALUES ARE IN UG/G EXCEPT DEPTH(FEET) AND PERCENT VOLATILE DRY WEIGHT SOLIDS (%).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.
VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 13

SEDIMENT CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

	STATION		CD T.R.	CD TOT	AS T.R.	AS TOT	CR T R.	PB T.R.	PB TOT	AG T.R.
03	MILLTOWN	MAX:	6.	5.6	44.	49.2	<20.	80.	83.4	<10.
		MIN:	<5.	<1.1	5.	0.6	<20.	<50.	35.5	<10.
		MEAN:	5.2	2.1	21.4	21.1	20.0	60.0	61.6	10.0
		N:	12	12	12	12	3	9	6	3
13	MARCURE	MAX:	<5.	<1.2	4.	3.1	<20.	<50.		<10.
		MIN:	<5.	<1.1	1.	1.3	<20.	<50.		<10.
		MEAN:	5.0	1.2	3.3	2.4	20.0	50.0	0.0	10.0
		N:	4	4	4	4	3	3	0	3
15	HUSON	MAX:								
		MIN:								
		MEAN:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		N:	0	0	0	0	0	0	0	0
16	NINEMILE	MAX:	<5.	<1.2	16.	2.3	<20.	<50.		<10.
		MIN:	<5.	<1.1	1.	2.1	<20.	<50.		<10.
		MEAN:	5.0	1.2	5.6	2.2	20.0	50.0	0.0	10.0
		N:	5	5	5	5	3	3	0	3
17	BEL FISH C	MAX:	<5.	<1.2	1.	2.2				
		MIN:	<5.	<1.2	1.	2.2				
		MEAN:	5.0	1.2	1.0	2.2	0.0	0.0	0.0	0.0
		N:	1	1	1	1	0	0	0	0
18	TARKIO	MAX:	<5.	<1.3	2.	2.6	<20.	<50.		<10.
		MIN:	<5.	<1.2	1.	2.4	<20.	<50.		<10.
		MEAN:	5.0	1.3	1.5	2.5	20.0	50.0	0.0	10.0
		N:	2	2	2	2	1	1	0	1
19.5	SUPERIOR	MAX:	<5.	<1.3	6.	3.1	<20.	<50.		<10.
		MIN:	<5.	<1.2	5.	3.0	<20.	<50.		<10.
		MEAN:	5.0	1.3	5.5	3.1	20.0	50.0	0.0	10.0
		N:	2	2	2	2	2	2	0	2
20	LAVISTA	MAX:								
		MIN:								
		MEAN:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		N:	0	0	0	0	0	0	0	[illegible]

NOTE: ALL VALUES ARE IN UG/G. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.
VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 13

SEDIMENT CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART I

STATION		DEPTH	PVDWS	FE T.R.	FE TOT	CU T.R.	CU TOT	ZN T.R.	ZN TOT	MN T.R.	MN TOT
20.5 RED HILL	MAX:	12	0.17	1940.	6915.	20.	17.5	74.	80.2	160.	180.
	MIN:	12	0.17	1940.	6915.	20.	17.5	74.	80.2	160.	180.
	MEAN:	12.	0.17	1940.0	6915.0	20.0	17.5	74.0	80.2	160.0	180.0
	N:	1	1	1	1	1	1	1	1	1	1
21 BOXCAR	MAX:	8	0.18	1220.	5165.	<10.	13.1	40.	39.4	120.	149.
	MIN:	8	0.10	1050.	4300.	<10.	4.4	30.	29.1	110.	137.
	MEAN:	8.	0.12	1142.5	4669.7	10.0	6.7	33.8	35.5	117.5	142.7
	N:	4	4	4	4	4	4	4	4	4	4
21.5 TOOLE	MAX:	32	0.42	2280.	6749.	20.	21.8	93.	96.0	160.	200.
	MIN:	5	0.10	1190.	4087.	<10.	4.8	38.	37.4	110.	134.
	MEAN:	20.	0.22	1572.0	5159.2	14.0	11.6	57.0	62.7	134.0	158.6
	N:	5	5	5	5	5	5	5	5	5	5
22 ABV FLHEAD	MAX:	3	0.55	2440.	5935.	30.	34.0	120.	115.	220.	217.
	MIN:	3	0.55	2440.	5935.	30.	34.0	120.	115.	220.	217.
	MEAN:	3.	0.55	2440.0	5935.0	30.0	34.0	120.0	115.0	220.0	217.0
	N:	1	1	1	1	1	1	1	1	1	1
26 T FALLS	MAX:	57	2.98	7540.	12600.	175.	150.	353.	321.	904.	802.
	MIN:	17	0.23	1600.	3811.	10.	7.0	59.	48.8	60.	62.8
	MEAN:	32.	1.37	3899.1	8135.2	64.2	67.3	157.5	162.8	294.0	288.9
	N:	6	6	11	11	11	11	11	11	11	11
28 NOXON	MAX:	48	1.6	9720.	19000.	170.	174.	364.	372.	630.	597.
	MIN:	22	1.16	4910.	13030.	63.	65.7	114.	162.	130.	162.
	MEAN:	40.	1.38	6802.9	15302.4	120.8	131.2	267.4	284.4	412.6	430.8
	N:	7	7	17	17	17	17	17	17	17	17
30 CAB GORGE	MAX:	43	1.64	5570.	12000.	40.	49.9	201.	213.	590.	587.
	MIN:	25	0.4	2600.	6650.	3.	2.0	<5.	26.0	198.	163.
	MEAN:	30.	1.02	4177.5	10091.6	22.7	21.3	106.0	116.7	308.2	313.2
	N:	6	6	12	12	12	12	12	12	12	12

NOTE: ALL VALUES ARE IN UG/G EXCEPT DEPTH(FEET) AND PERCENT VOLATILE DRY WEIGHT SOLIDS (%).
IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.
VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 13

SEDIMENT CHEMICAL/PHYSICAL MONITORING - STATISTICAL SUMMARY - PART II

STATION		CD T.R.	CD TOT	AS T.R.	AS TOT	CR T R.	PB T.R.	PB TOT	AG T.R.
20.5 RED HILL	MAX:	<5.	<1.2	2.	3.0				
	MIN:	<5.	<1.2	2.	3.0				
	MEAN:	5.0	1.2	2.0	3.0	0.0	0.0	0.0	0.0
	N:	1	1	1	1	0	0	0	0
21 BOXCAR	MAX:	<5.	<1.2	<1.	2.9				
	MIN:	<5.	<1.2	<1.	1.3				
	MEAN:	5.0	1.2	1.0	1.8	0.0	0.0	0.0	0.0
	N:	4	4	4	4	0	0	0	0
21.5 TOOLE	MAX:	<5.	<1.3	2.	4.1				
	MIN:	<5.	<1.1	1.	2.2				
	MEAN:	5.0	1.2	1.4	3.2	0.0	0.0	0.0	0.0
	N:	5	5	5	5	0	0	0	0
22 ABV FLHEAD	MAX:	<5.	<1.1	3.	2.7				
	MIN:	<5.	<1.1	3.	2.7				
	MEAN:	5.0	1.1	3.0	2.7	0.0	0.0	0.0	0.0
	N:	1	1	1	1	0	0	0	0
26 T FALLS	MAX:	<5.	<2.0	15.	5.5	<20.	<50.	23.5	<10.
	MIN:	<5.	<1.2	1.	2.3	<20.	<50.	<12.0	<10.
	MEAN:	5.0	1.5	4.8	3.6	20.0	50.0	17.9	10.0
	N:	11	11	11	11	3	8	5	3
28 NOXON	MAX:	7.	<2.0	10.	13.2	<20.	80.	39.6	<10.
	MIN:	<5.	<1.2	3.	0.7	<20.	<50.	17.0	<10.
	MEAN:	5.6	1.5	6.7	6.2	20.0	55.5	30.4	10.0
	N:	17	17	17	17	1	11	10	1
30 CAB GORGE	MAX:	<5.	<2.0	5.	7.7	<20.	<50.	24.9	<10.
	MIN:	<5.	<1.2	1.	2.1	<20.	<50.	<12.0	<10.
	MEAN:	5.0	1.5	3.2	4.4	20.0	50.0	17.0	10.0
	N:	12	12	12	12	3	9	6	3

NOTE: ALL VALUES ARE IN UG/G. IN THE HEADINGS, T.R. MEANS TOTAL RECOVERABLE AND TOT MEANS TOTAL.
VALUES LESS THAN THE DETECTION LIMIT ARE TAKEN TO BE AT THE DETECTION LIMIT FOR COMPUTATION OF THE MEAN.

TABLE 13

4. Diurnal Dissolved Oxygen Monitoring

a. Rationale

Dissolved oxygen and water temperature were measured every three hours over a 24-hour period at low flow in midsummer of 1984 and 1985. Twelve stations were established to bracket the Missoula wastewater treatment plant and Champion International with most stations clustered below the latter facility in order to pinpoint the reach of river subject to the maximum depression in dissolved oxygen. The data collected from this intensive effort will help to model and predict dissolved oxygen concentrations at different stations under varying conditions and to determine the probability of violation of the State's dissolved oxygen standard at different levels of organic loading.

b. Methods

Dissolved oxygen and water temperature were determined in the field at each of 12 stations every three hours over a 24-hour period in early August of 1984 and 1985. Dissolved oxygen was measured on water samples collected in moving water near shore using the azide modification of the Winkler method. Temperature was recorded to the nearest tenth of a degree Centigrade with a calibrated field thermometer.

c. Results

Diurnal dissolved oxygen and temperature data for the 1984 and 1985 monitoring runs are presented in Table 14. Diurnal curves of dissolved oxygen and temperature are shown in Figures 2-21. An explanation of the time-weighted mean dissolved oxygen and temperature values used in Table 14 and Figures 6, 11, 16 and 21 is given in Appendix C.

DIURNAL DISSOLVED OXYGEN AND TEMPERATURE MONITORING RESULTS
RESULTS OF SAMPLES TAKEN ON AUGUST 8-9, 1984

STATION	MEASUREMENT RESULTS													
01 TURAH	DAY:	08	08	08	08	08	09	09	09	09				
	TIME:	0905	12[illegible]	1504	1803	2105	0017	0250	0601	0903				
	T:	15.50	17.[illegible]	20.00	21.00	19.50	18.50	17.50	16.50	17.00				
	D.O.:	8.50	9.[illegible]	9.60	9.00	8.00	7.50	7.60	7.90	8.70				
	TIME-WEIGHTED MEAN D.O. = 8.48; TIME-WEIGHTED MEAN T = 18.29													
06 ABV STP	DAY:	08	08	08	08	08	08	08	09	09	09	09	09	09
	TIME:	0938	122[illegible]	1531	1651	1834	1932	2139	0046	0340	0500	0624	0738	0946
	T:	18.00	19.[illegible]	20.00	20.00	19.50	19.00	18.50	18.50	18.50	18.50	19.00	19.00	19.50
	D.O.:	8.60	9.5[illegible]	9.80	9.80	9.70	9.50	9.00	8.10	7.90	7.90	7.90	8.00	8.50
	TIME-WEIGHTED MEAN D.O. = 8.81; TIME-WEIGHTED MEAN T = 18.96													
09 SHUFFIELDS	DAY:	08	08	08	08	08	08	09	09	09	09	09	09	
	TIME:	1002	124[illegible]	1551	1709	1850	2200	0109	0404	0519	0647	0726	1004	
	T:	18.50	19.5[illegible]	20.50	20.50	20.00	19.00	18.00	18.00	18.00	18.50	19.00	19.00	
	D.O.:	8.70	9.[illegible]	9.75	9.70	9.50	8.40	7.90	7.70	7.80	7.80	7.70	8.50	
	TIME-WEIGHTED MEAN D.O. = 8.61; TIME-WEIGHTED MEAN T = 19.07													
11 HARPER BR	DAY:	08	08	08	08	08	08	08	08	09	09	09	09	09
	TIME:	0905	120[illegible]	1500	1600	1755	1900	2100	2400	0300	0430	0530	0600	0845
	T:	17.00	18.[illegible]	20.00	20.50	21.30	21.50	21.00	20.00	18.80	18.50	18.00	17.80	17.40
	D.O.:	7.90	8.9[illegible]	9.72	9.85	9.90	9.75	9.12	8.00	7.50	7.40	7.38	7.40	7.70
	TIME-WEIGHTED MEAN D.O. = 8.55; TIME-WEIGHTED MEAN T = 19.33													
15 HUSON	DAY:	08	08	08	08	08	08	08	09	09	09	09	09	
	TIME:	0945	124[illegible]	1530	1630	1830	1930	2135	0035	0340	0500	0630	0915	
	T:	17.80	18.[illegible]	20.40	20.70	21.10	21.00	20.80	20.30	19.70	19.40	18.80	18.30	
	D.O.:	8.10	8.[illegible]	9.55	9.72	9.80	9.76	9.10	8.20	7.70	7.50	7.50	7.75	
	TIME-WEIGHTED MEAN D.O. = 8.60; TIME-WEIGHTED MEAN T = 19.75													
17 ABV ALBERT	DAY:	08	08	08	08	08	08	08	09	09	09	09		
	TIME:	0850	114[illegible]	1415	1630	1805	2045	2355	0255	0510	0715	0840		
	T:	17.50	19.0[illegible]	20.00	20.00	20.00	19.50	18.00	18.00	17.00	18.00	18.00		
	D.O.:	8.00	8.6[illegible]	8.90	9.35	9.30	8.90	8.10	7.80	7.50	7.40	7.80		
	TIME-WEIGHTED MEAN D.O. = 8.39; TIME-WEIGHTED MEAN T = 18.71													
19 LOZEAU	DAY:	08	08	08	08	08	08	09	09	09	09	09		
	TIME:	0930	1230	1450	1700	1845	2125	0035	0335	0550	0745	0925		
	T:	15.00	18.[illegible]	19.50	19.50	19.00	18.00	17.00	17.00	17.00	17.00	17.50		
	D.O.:	8.60	8.[illegible]	9.72	10.00	9.95	9.00	8.05	7.80	7.85	7.80	7.90		
	TIME-WEIGHTED MEAN D.O. = 8.72; TIME-WEIGHTED MEAN T = 17.80													

NOTE: TEMPERATURE UNITS ARE DEGREES CELCIUS AND DISSOLVED OXYGEN UNITS ARE MG/L.

TABLE 14

DIURNAL DISSOLVED OXYGEN AND TEMPERATURE MONITORING RESULTS
RESULTS OF SAMPLES TAKEN ON AUGUST 8-9, 1984

STATION		MEASUREMENT RESULTS														
20 LAVISTA	DAY:	08	08	08	08	08	08	08	08	08	09	09	09	09	09	09
	TIME:	0850	1150	1450	1550	1655	1750	1850	1950	2050	0350	0450	0550	0650	0750	0850
	T:	16.50	18.50	20.50	21.00	21.00	21.00	21.00	20.50	20.00	18.00	17.50	17.00	17.00	17.00	17.00
	D.O.:	7.95	9.10	10.10	10.30	10.35	10.40	10.35	10.15	10.00	7.80	7.80	7.80	7.80	7.80	7.90
	TIME-WEIGHTED MEAN D.O. = 9.06; TIME-WEIGHTED MEAN T = 18.95															
21 BEL ST REG	DAY:	08	08	08	08	08	08	08	08	08	09	09	09	09	09	09
	TIME:	0920	1210	1510	1615	1715	1815	1915	2015	2115	0420	0515	0610	0715	0810	0915
	T:	17.00	20.00	21.00	21.50	21.00	21.00	21.00	20.00	19.50	18.00	17.50	17.00	17.50	17.50	17.50
	D.O.:	8.70	9.70	10.30	10.35	10.35	10.40	10.30	9.40	9.20	7.85	7.80	7.70	7.80	8.40	8.60
	TIME-WEIGHTED MEAN D.O. = 9.08; TIME-WEIGHTED MEAN T = 19.19															
22 ABV FLATHD	DAY:	08	08	08	08	08	08	09	09	09						
	TIME:	0945	1230	1525	1830	2115	2345	0330	0615	0920						
	T:	18.00	19.00	19.50	19.50	19.00	19.00	18.40	18.00	18.00						
	D.O.:	8.50	9.15	9.40	9.35	8.90	8.50	8.00	7.70	8.20						
	TIME-WEIGHTED MEAN D.O. = 8.65; TIME-WEIGHTED MEAN T = 18.78															
23 FLATHEAD R	DAY:	08	08	08	08	08	08	09	09	09						
	TIME:	0915	1200	1500	1810	2100	2330	0310	0600	0900						
	T:	19.60	21.00	23.00	23.50	23.00	23.00	22.00	21.00	22.00						
	D.O.:	8.25	10.10	13.08	10.75	9.75	8.20	7.55	6.90	8.25						
	TIME-WEIGHTED MEAN D.O. = 9.31; TIME-WEIGHTED MEAN T = 22.16															
24 PLAINS	DAY:	08	08	08	08	08	08	09	09	09						
	TIME:	1015	1305	1555	1915	2135	2400	0400	0640	0950						
	T:	20.20	21.00	21.30	21.70	21.00	21.00	20.50	20.00	21.00						
	D.O.:	8.42	8.70	8.95	9.05	8.75	8.45	8.15	8.05	8.35						
	TIME-WEIGHTED MEAN D.O. = 8.54; TIME-WEIGHTED MEAN T = 20.88															

NOTE: TEMPERATURE UNITS ARE DEGREES CELCIUS AND DISSOLVED OXYGEN UNITS ARE MG/L.

TABLE 14

DIURNAL DISSOLVED OXYGEN AND TEMPERATURE MONITORING RESULTS
RESULTS OF SAMPLES TAKEN ON AUGUST 7-8, 1985

STATION	MEASUREMENT RESULTS												
01 TURAH	DAY:	07	07	07	07	07	07	08	08	08	08	08	
	TIME:	0847	1149	1344	1512	1803	2128	0010	0258	0427	0612	0852	
	T:	14.50	16.00	17.00	19.00	19.50	18.00	17.00	16.50	16.00	15.50	14.50	
	D.O.:	7.90	9.90	10.10	10.40	9.10	7.50	7.30	7.40	7.40	7.70	8.80	
	TIME-WEIGHTED MEAN D.O. = 8.47; TIME-WEIGHTED MEAN T = 16.99												
06 ABV STP	DAY:	07	07	07	07	07	07	07	08	08	08	08	08
	TIME:	0918	1226	1411	1539	1733	1838	2203	0040	0329	0458	0652	0923
	T:	18.00	19.50	20.50	21.00	21.50	21.00	18.00	17.00	16.50	16.50	16.00	17.00
	D.O.:	8.20	9.00	9.40	9.60	9.60	9.40	8.20	7.90	7.80	7.80	7.90	8.30
	TIME-WEIGHTED MEAN D.O. = 8.54; TIME-WEIGHTED MEAN T = 18.44												
09 SHUFFIELDS	DAY:	07	07	07	07	07	07	08	08	08	08	08	
	TIME:	0941	1238	1424	1556	1855	2221	0100	0348	0511	0710	0940	
	T:	17.50	19.00	20.50	21.00	21.00	18.00	17.50	16.50	16.50	16.00	16.50	
	D.O.:	8.25	9.30	10.00	9.90	9.40	8.80	7.60	7.60	7.70	7.80	8.20	
	TIME-WEIGHTED MEAN D.O. = 8.64; TIME-WEIGHTED MEAN T = 18.36												
11 HARPER BR	DAY:	07	07	07	07	07	07	07	08	08	08	08	
	TIME:	0900	1130	1400	1600	1800	1930	2130	0245	0415	0530	0800	
	T:	16.80	17.00	18.10	19.10	19.80	19.80	19.40	18.30	18.00	17.70	16.70	
	D.O.:	7.30	8.97	10.60	11.25	11.60	11.25	9.70	7.25	6.90	6.80	7.00	
	TIME-WEIGHTED MEAN D.O. = 8.99; TIME-WEIGHTED MEAN T = 18.31												
15 HUSON	DAY:	07	07	07	07	07	07	07	08	08	08	08	08	08
	TIME:	0930	1200	1430	1630	1830	1900	2200	0320	0450	0600	0710	0830	0900
	T:	17.70	18.10	19.40	20.00	19.90	19.70	18.80	18.00	17.90	17.80	17.80	17.60	17.60
	D.O.:	7.40	8.65	10.10	10.85	10.95	10.90	9.65	7.85	7.50	7.30	7.15	7.10	7.20
	TIME-WEIGHTED MEAN D.O. = 8.94; TIME-WEIGHTED MEAN T = 18.60												
16 NINEMILE	DAY:	07	07	07	07	07	07	07	08	08	08	08	08	
	TIME:	0850	1145	1420	1620	1820	2050	2350	0255	0400	0515	0630	0855	
	T:	18.00	19.00	21.00	21.50	21.00	20.00	19.00	18.50	18.00	18.00	18.00	18.00	
	D.O.:	7.40	8.85	10.35	11.00	11.25	10.10	8.95	8.15	7.95	7.65	7.50	7.50	
	TIME-WEIGHTED MEAN D.O. = 9.13; TIME-WEIGHTED MEAN T = 19.37												
17 ABV ALBERT	DAY:	07	07	07	07	07	07	08	08	08	08	08	08	
	TIME:	0910	1205	1440	1635	1835	2110	0015	0315	0420	0535	[illegible]	0915	
	T:	18.00	19.50	21.00	21.00	21.00	20.50	19.50	19.00	18.50	18.00	18.00	18.00	
	D.O.:	8.00	9.30	10.20	10.55	10.40	9.45	8.60	8.00	7.90	7.65	7.65	8.15	
	TIME-WEIGHTED MEAN D.O. = 9.00; TIME-WEIGHTED MEAN T = 19.58												

NOTE: TEMPERATURE UNITS ARE DEGREES CELCIUS AND DISSOLVED OXYGEN UNITS ARE MG/L.

TABLE 14

DIURNAL DISSOLVED OXYGEN AND TEMPERATURE MONITORING RESULTS
RESULTS OF SAMPLES TAKEN ON AUGUST 7-8, 1985

STATION	MEASUREMENT RESULTS									
19 LOZEAU	DAY:	07	07	07	07	07	07	08	08	08
	TIME:	0845	1200	1530	1745	2100	2355	0245	0550	0845
	T:	17.00	18.30	19.80	19.80	17.90	17.50	17.30	17.00	17.00
	D.O.:	8.00	9.25	9.75	9.90	8.80	8.25	8.00	7.70	7.95
	TIME-WEIGHTED MEAN D.O. = 8.70; TIME-WEIGHTED MEAN T = 18.05									
20 SUPERIOR	DAY:	07	07	07	07	07	08	08	08	08
	TIME:	0930	1230	1600	1830	2130	0020	0315	0620	0930
	T:	15.80	17.40	19.40	19.80	18.30	17.40	16.50	16.00	15.90
	D.O.:	8.10	9.35	10.05	10.05	9.20	8.40	8.10	7.85	7.97
	TIME-WEIGHTED MEAN D.O. = 8.86; TIME-WEIGHTED MEAN T = 17.54									
22 ABV FLATHD	DAY:	07	07	07	07	07	08	08	08	08
	TIME:	0930	1200	1445	1800	2120	0010	0315	0505	0755
	T:	16.70	17.80	19.40	19.40	17.80	16.20	16.70	16.70	15.60
	D.O.:	8.20	9.20	9.50	9.60	9.20	8.60	8.00	7.80	8.10
	TIME-WEIGHTED MEAN D.O. = 8.77; TIME-WEIGHTED MEAN T = 17.51									
23 FLATHEAD R	DAY:	07	07	07	07	07	08	08	08	08
	TIME:	0843	1115	1415	1715	2145	0030	0345	0530	0815
	T:	20.00	20.60	20.60	21.10	20.00	19.40	20.00	19.40	18.90
	D.O.:	9.10	7.66	8.40	9.00	9.00	8.50	7.90	7.70	7.80
	TIME-WEIGHTED MEAN D.O. = 8.40; TIME-WEIGHTED MEAN T = 20.11									
24 PLAINS	DAY:	07	07	07	07	07	07	08	08	08
	TIME:	1000	1245	1545	1840	2045	2335	0245	0435	0720
	T:	19.40	20.60	21.10	20.60	20.00	19.40	18.90	18.90	18.90
	D.O.:	8.30	8.40	8.80	8.70	9.15	8.60	8.30	8.10	8.10
	TIME-WEIGHTED MEAN D.O. = 8.50; TIME-WEIGHTED MEAN T = 19.78									

NOTE: TEMPERATURE UNITS ARE DEGREES CELCIUS AND DISSOLVED OXYGEN UNITS ARE MG/L.

TABLE 14

FIGURE 2

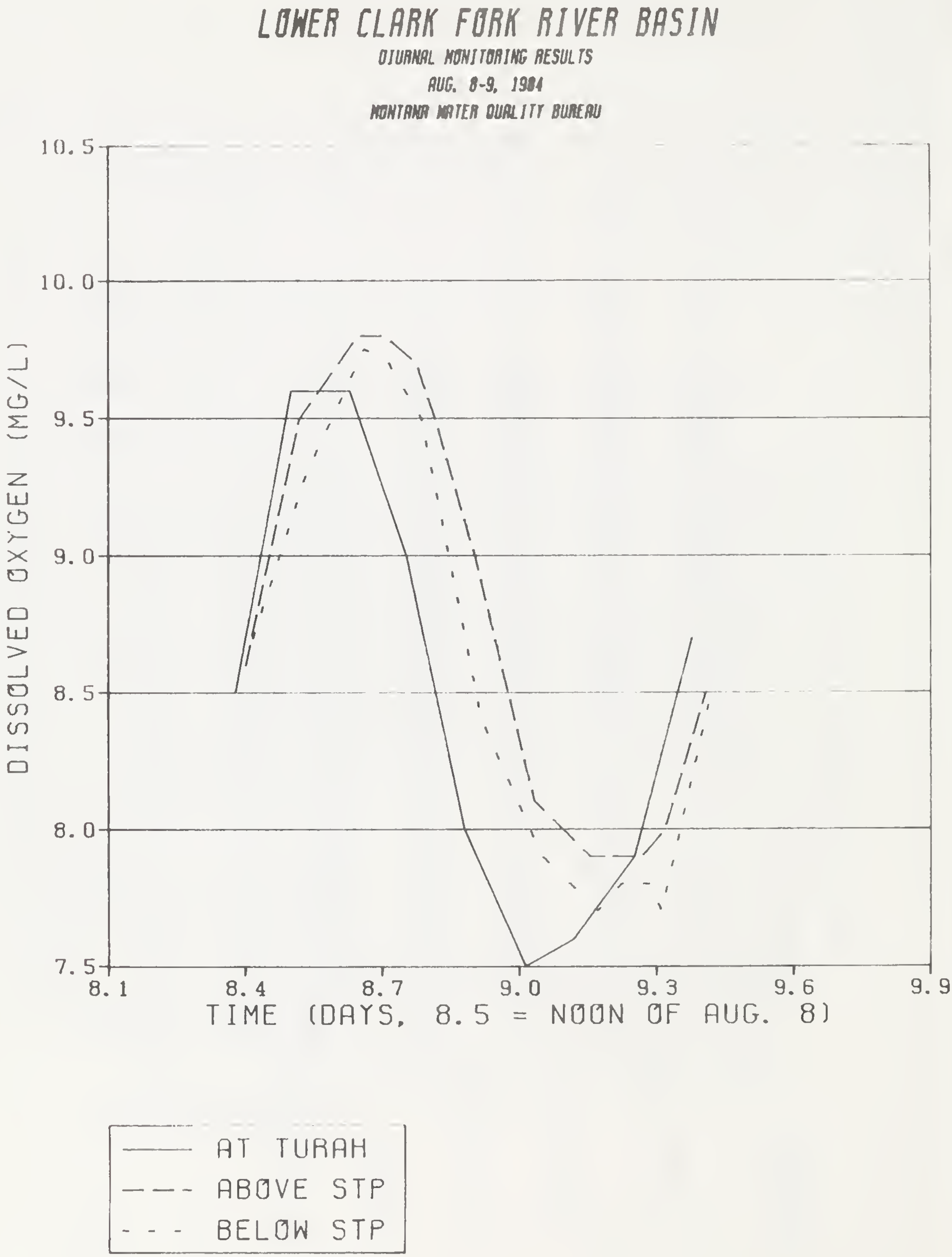

LOWER CLARK FORK RIVER BASIN
DIURNAL MONITORING RESULTS
AUG. 8-9, 1984
MONTANA WATER QUALITY BUREAU
10.5
10.0
9.5
9.0
8.5
8.0
7.5
DISSOLVED OXYGEN (MG/L)
8.1
8.4
8.7
9.0
9.3
9.6
9.9
TIME (DAYS, 8.5 = NOON OF AUG. 8)
AT TURAH
ABOVE STP
BELOW STP

FIGURE 3

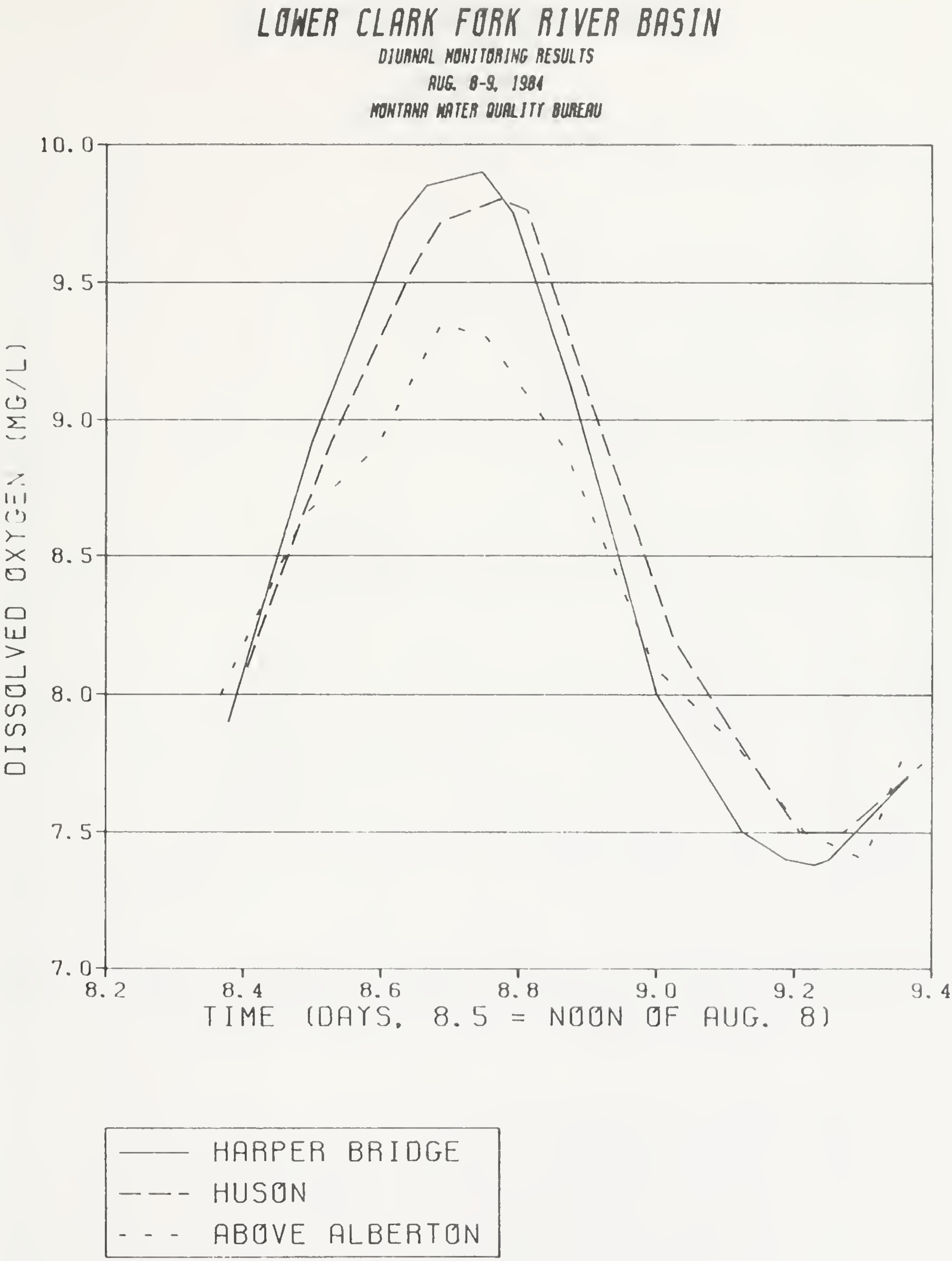

LOWER CLARK FORK RIVER BASIN
DIURNAL MONITORING RESULTS
AUG. 8-9, 1984
MONTANA WATER QUALITY BUREAU
10.0
9.5
9.0
8.5
8.0
7.5
7.0
DISSOLVED OXYGEN (MG/L)
8.2
8.4
8.6
8.8
9.0
9.2
9.4
TIME (DAYS, 8.5 = NOON OF AUG. 8)
HARPER BRIDGE
HUSON
ABOVE ALBERTON

FIGURE 4

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 8-9, 1984

MONTANA WATER QUALITY BUREAU

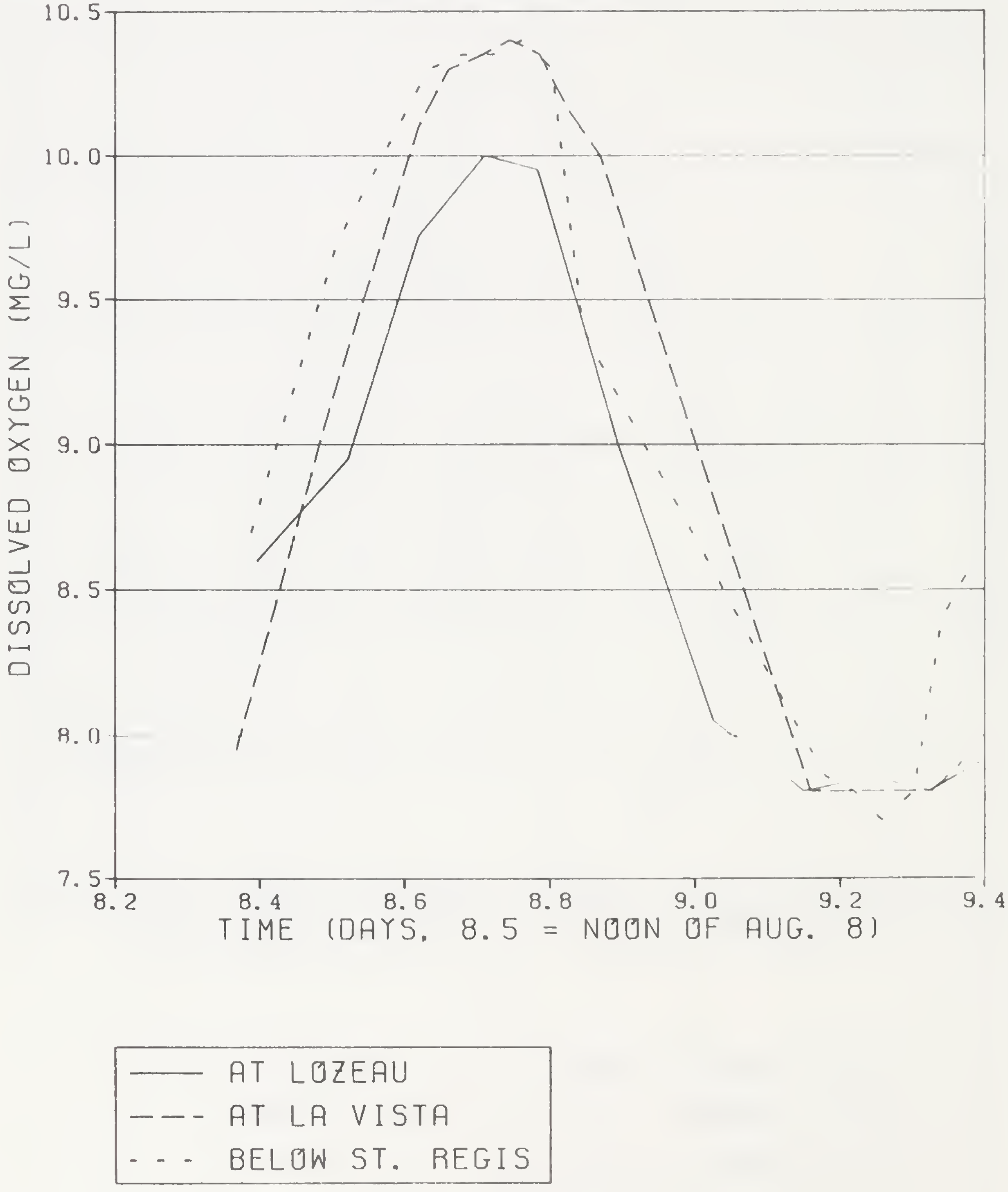


FIGURE 5

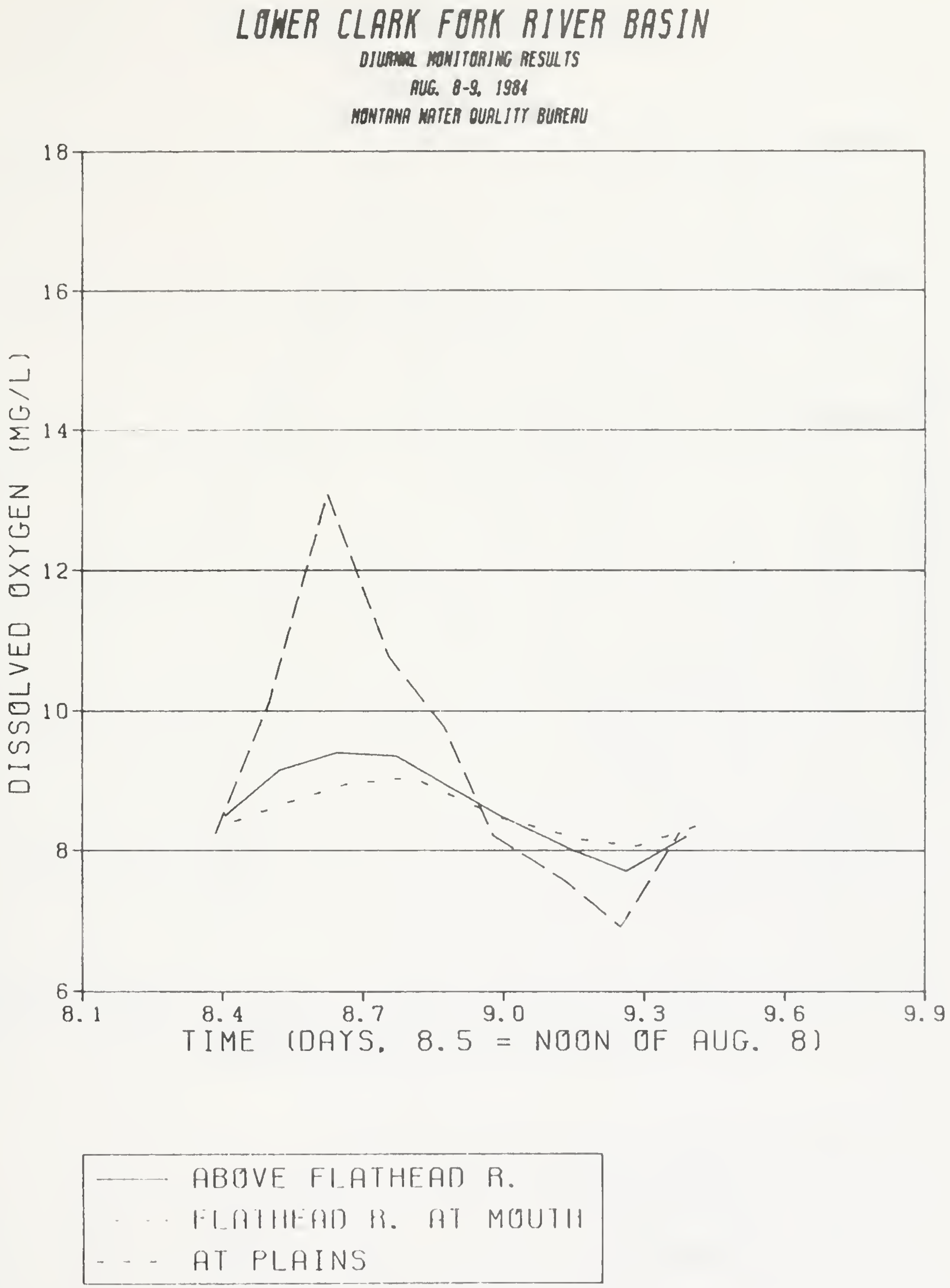

LOWER CLARK FORK RIVER BASIN
DIURNAL MONITORING RESULTS
AUG. 8-9, 1984
MONTANA WATER QUALITY BUREAU
18
16
14
12
10
8
6
DISSOLVED OXYGEN (MG/L)
8.1
8.4
8.7
9.0
9.3
9.6
9.9
TIME (DAYS, 8.5 = NOON OF AUG. 8)
ABOVE FLATHEAD R.
FLATHEAD R. AT MOUTH
AT PLAINS

FIGURE 6

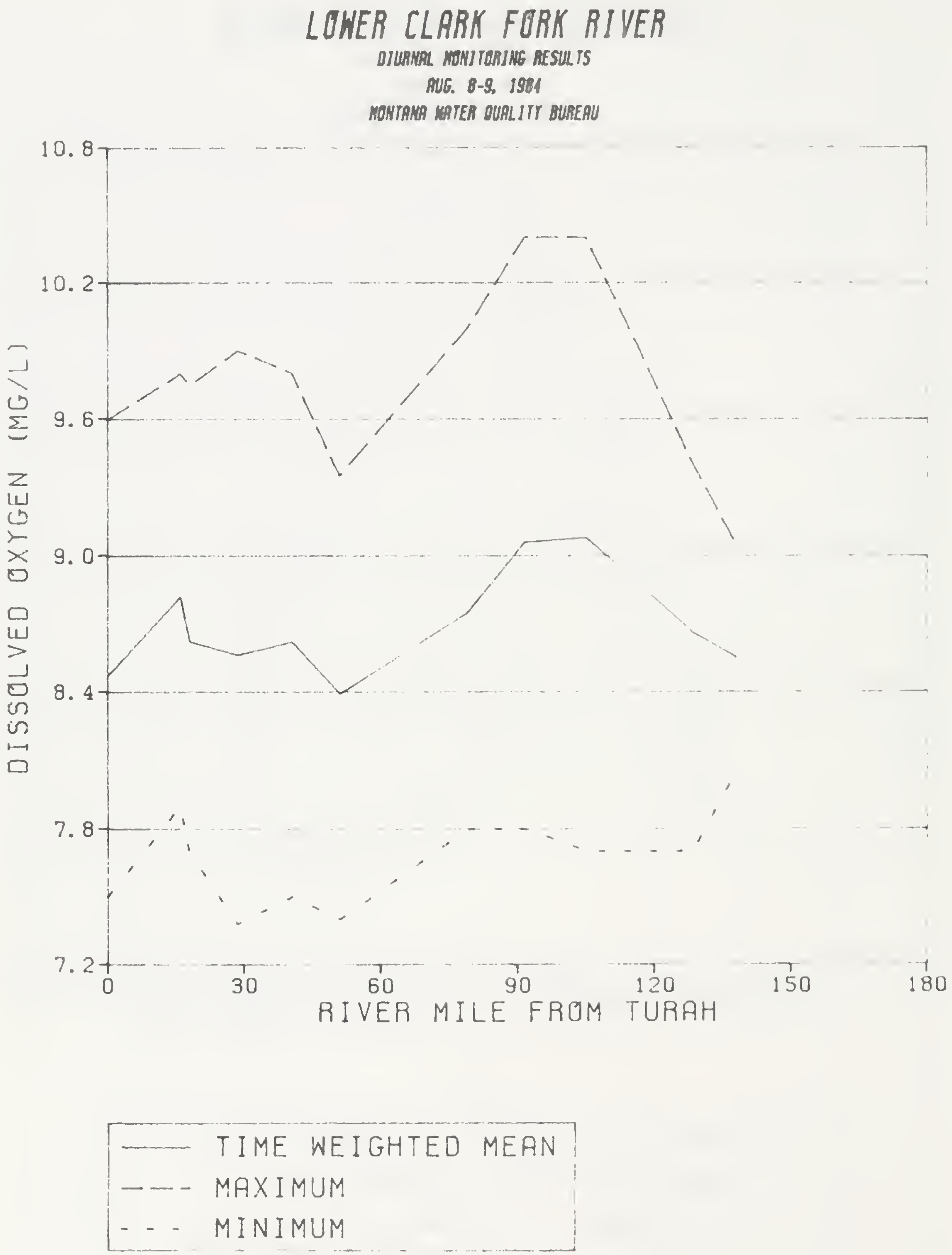

LOWER CLARK FORK RIVER
DIURNAL MONITORING RESULTS
AUG. 8-9, 1984
MONTANA WATER QUALITY BUREAU
10.8
10.2
9.6
9.0
8.4
7.8
7.2
DISSOLVED OXYGEN (MG/L)
0
30
60
90
120
150
180
RIVER MILE FROM TURAH
TIME WEIGHTED MEAN
MAXIMUM
MINIMUM

FIGURE 7

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 8-9, 1984

MONTANA WATER QUALITY BUREAU

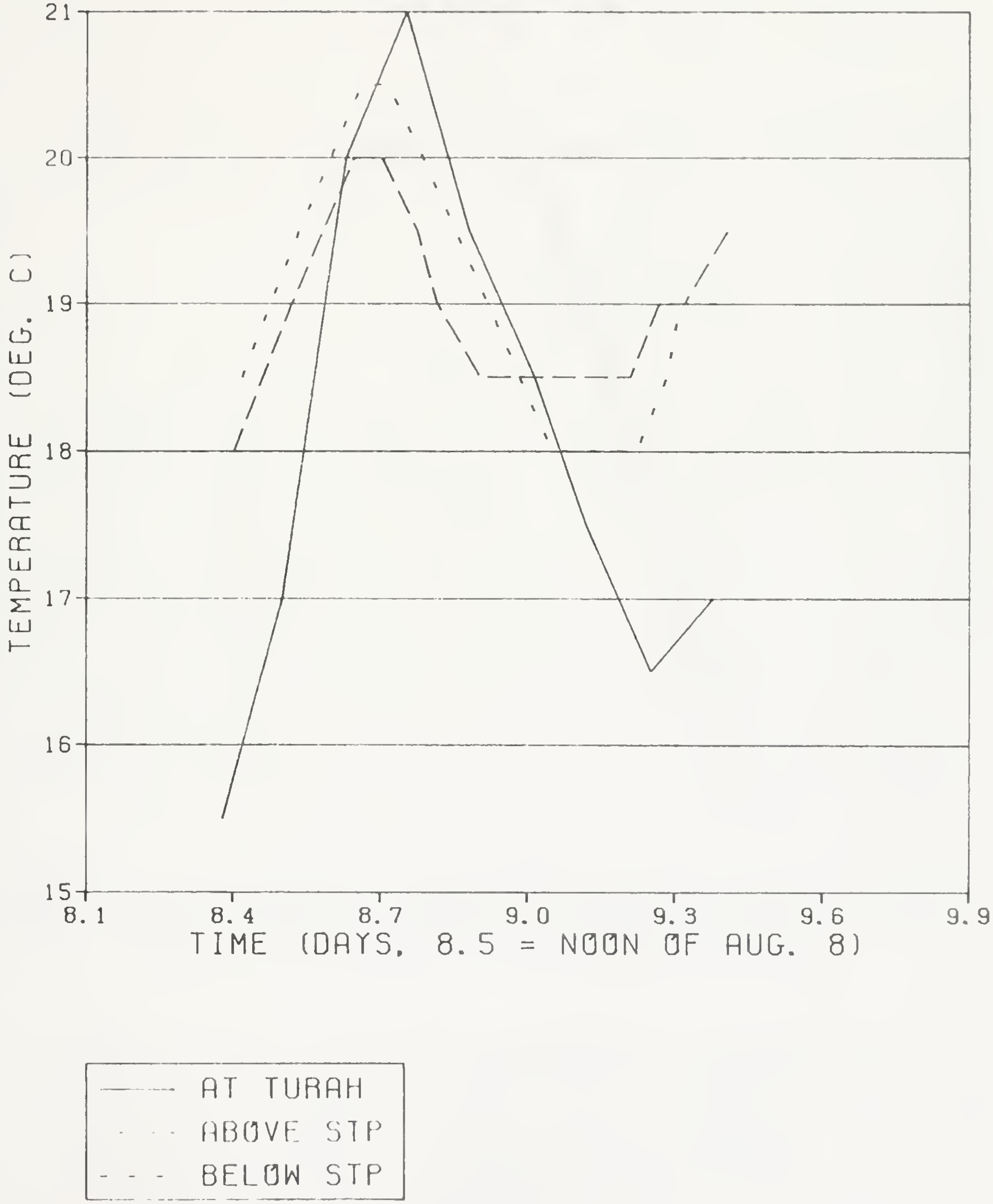


FIGURE 8

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 8-9, 1984

MONTANA WATER QUALITY BUREAU

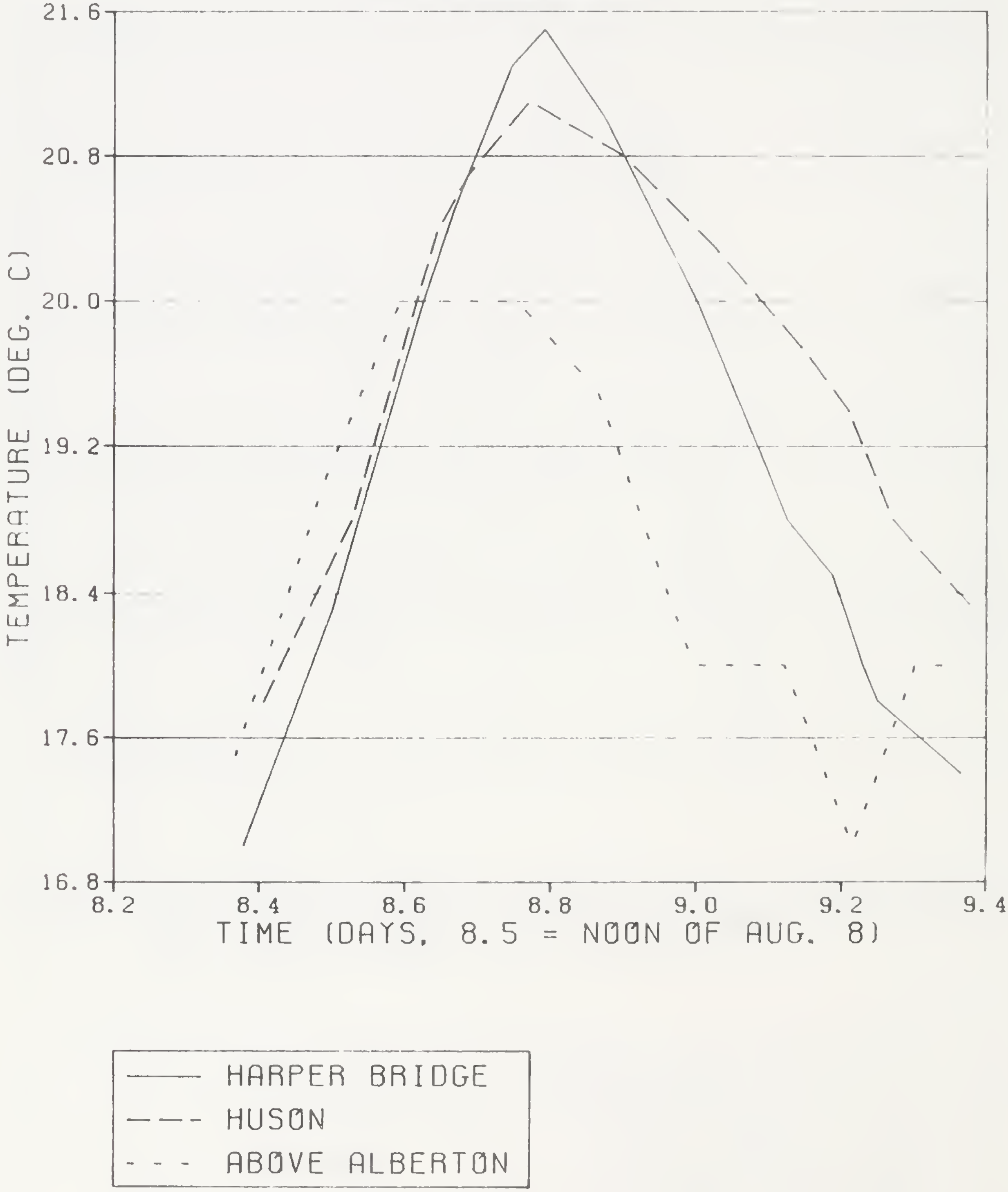


FIGURE 9

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 8-9, 1984

MONTANA WATER QUALITY BUREAU

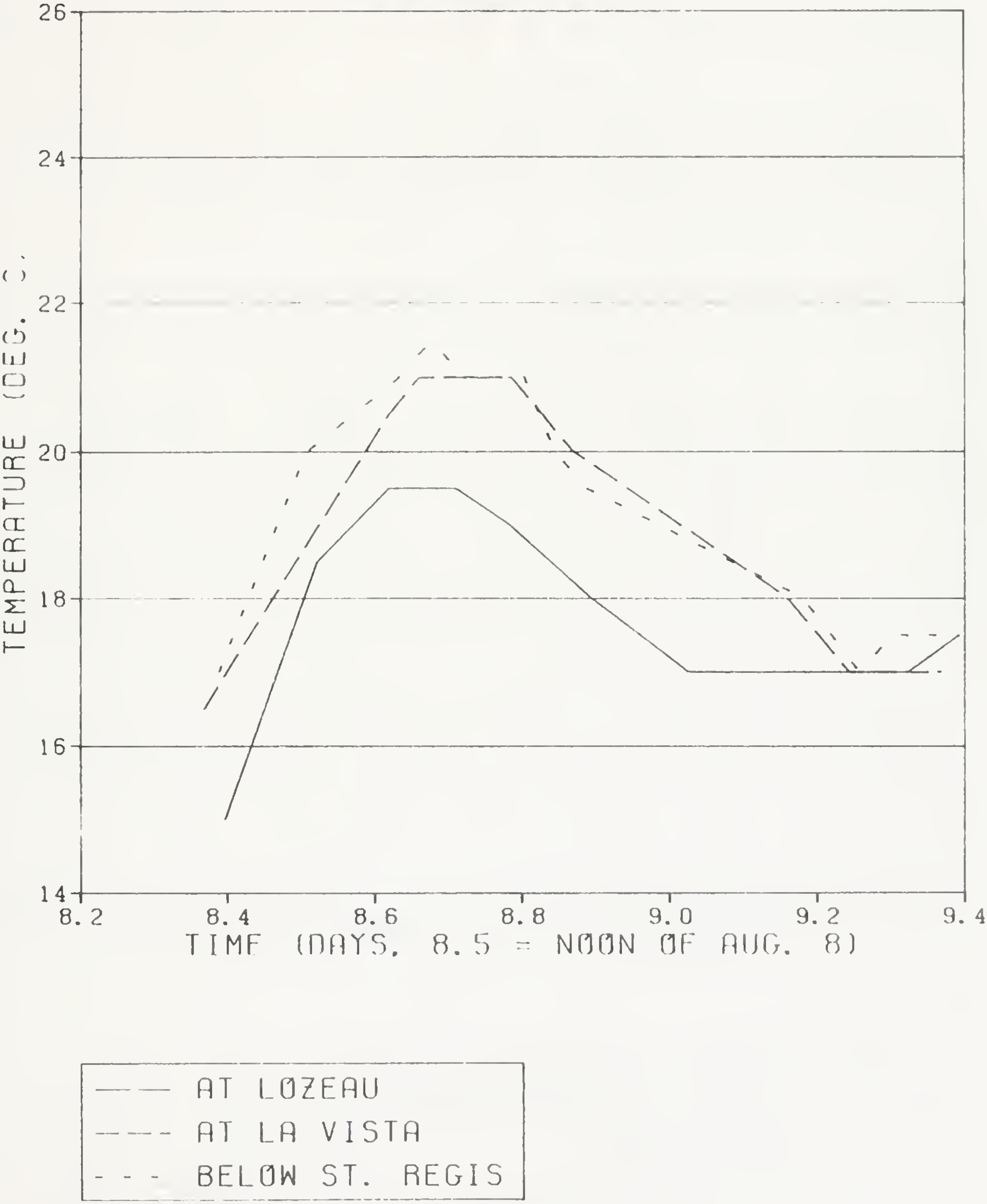


FIGURE 10

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 8-9, 1984

MONTANA WATER QUALITY BUREAU

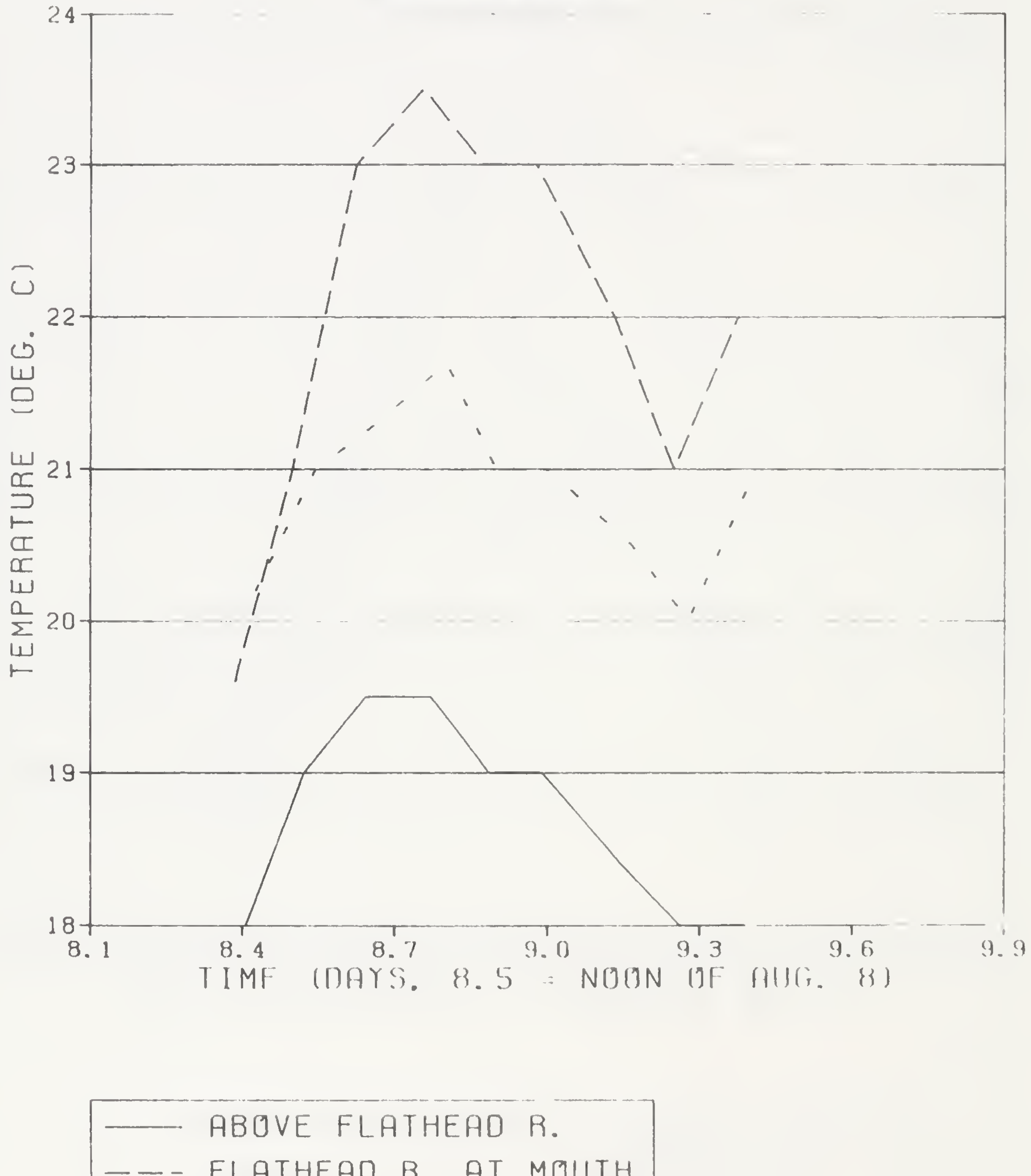


FIGURE 11

LOWER CLARK FORK RIVER

DIURNAL MONITORING RESULTS

AUG. 8-9, 1984

MONTANA WATER QUALITY BUREAU

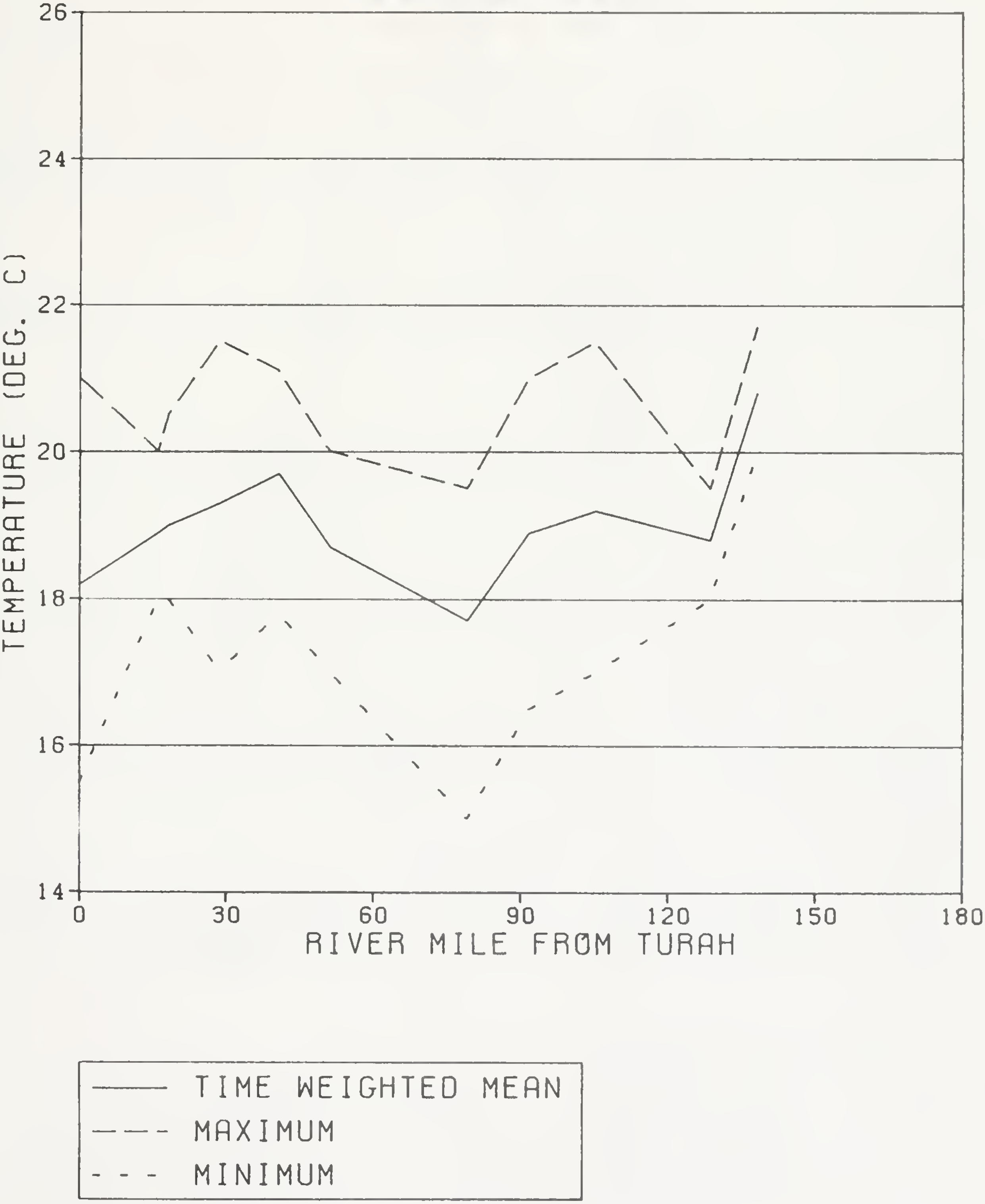


FIGURE 12

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 7-8, 1985

MONTANA WATER QUALITY BUREAU

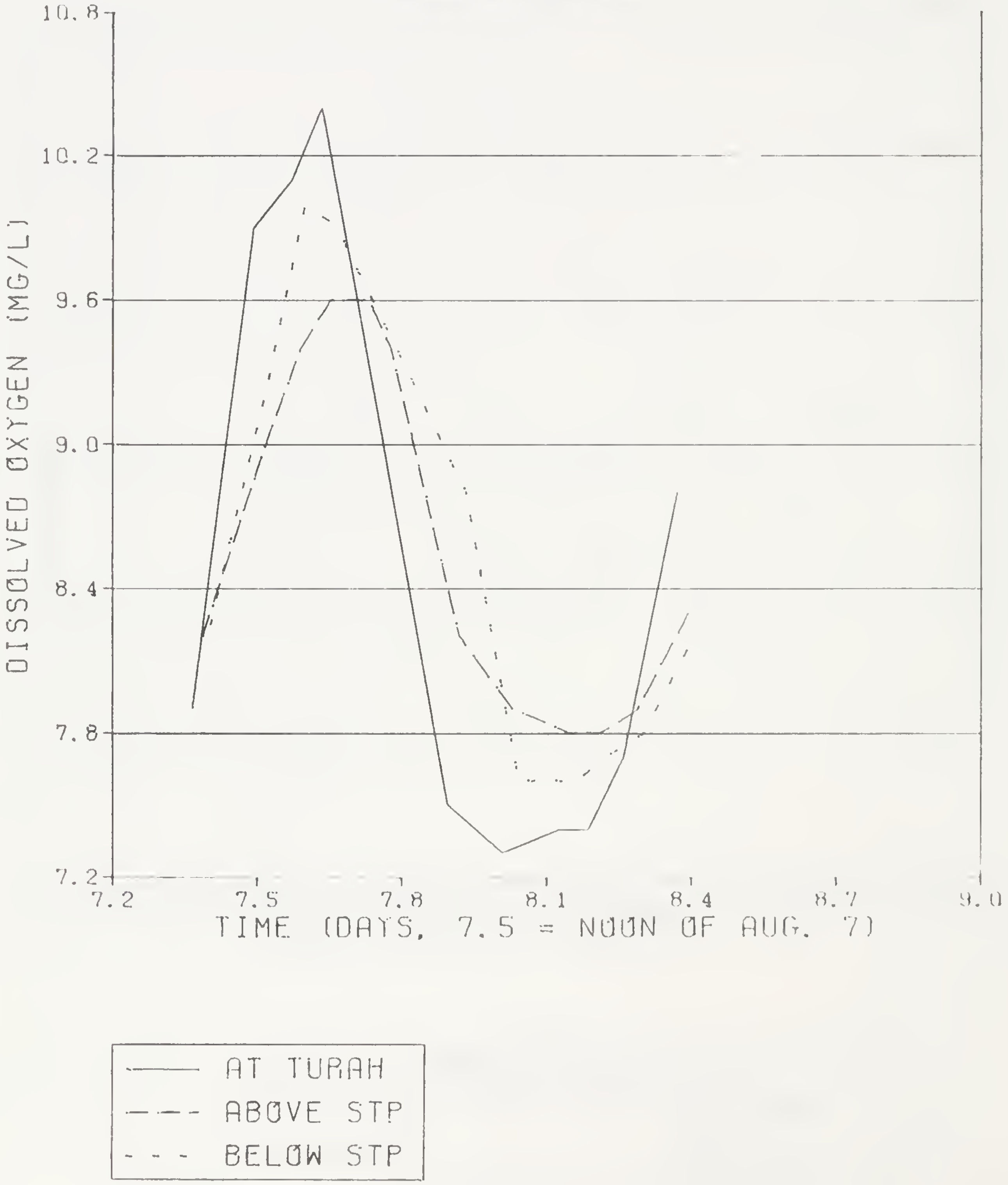


FIGURE 13

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 7-8, 1985

MONTANA WATER QUALITY BUREAU

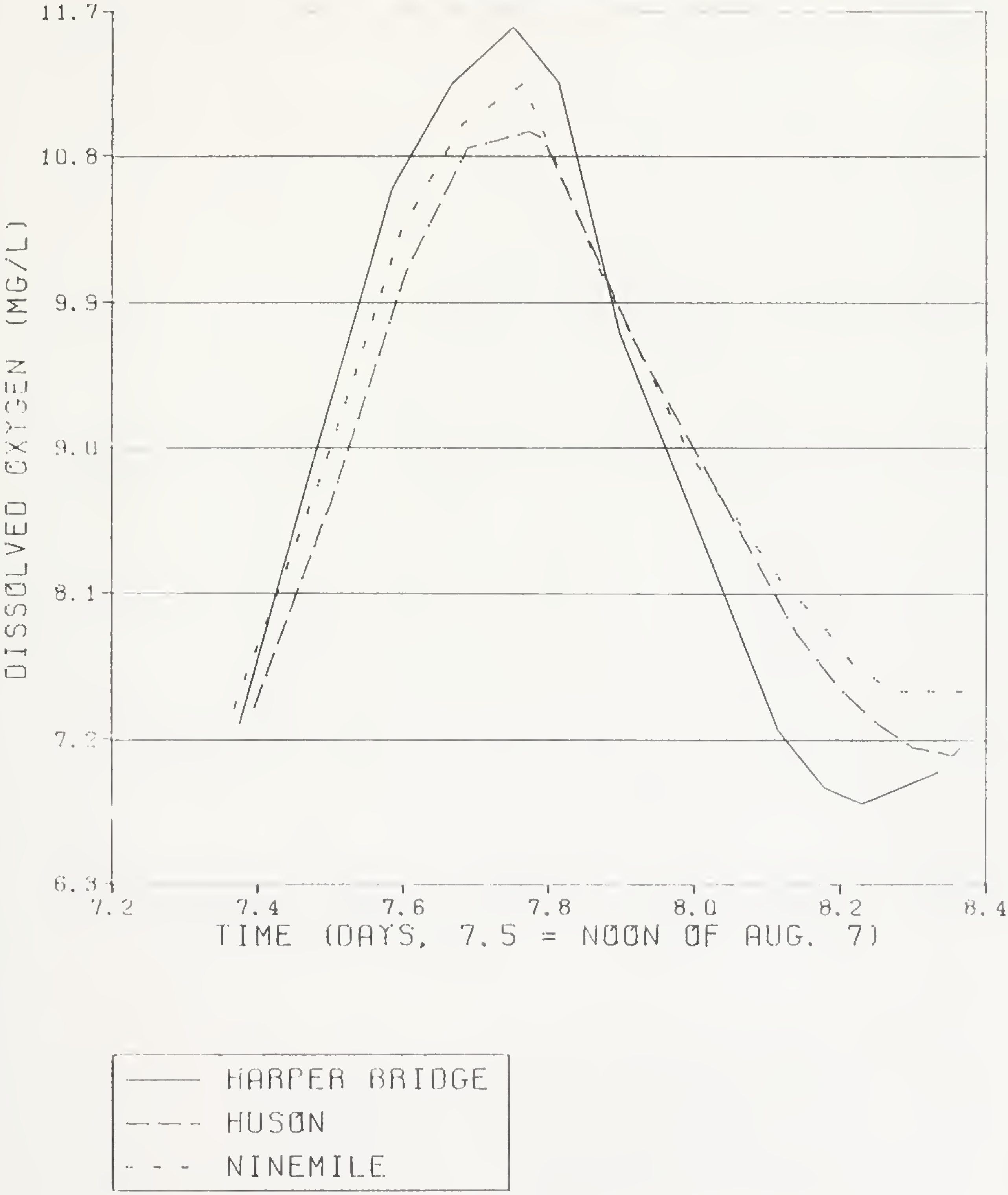


FIGURE 14

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 7-8, 1985

MONTANA WATER QUALITY BUREAU

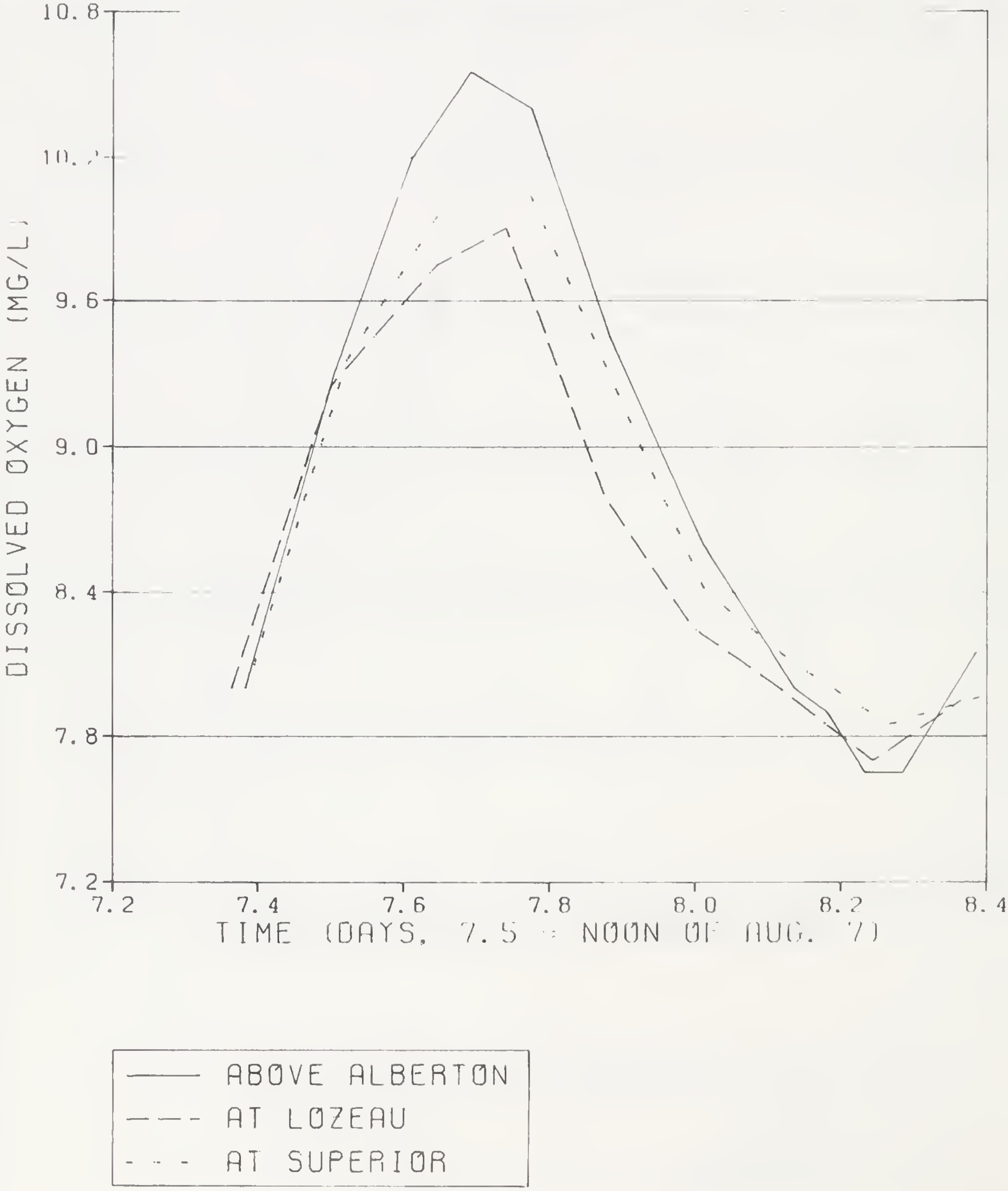


FIGURE 15

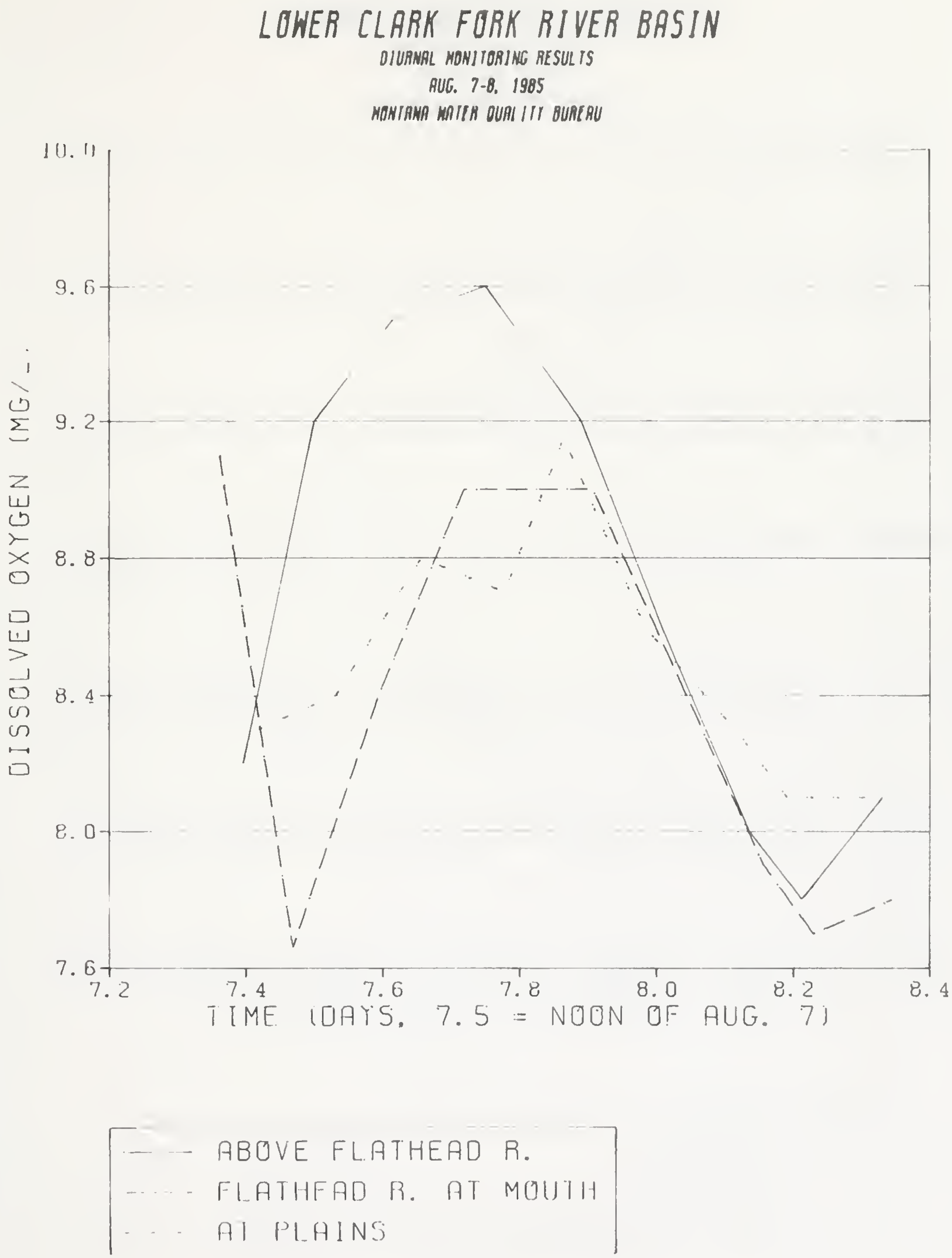

LOWER CLARK FORK RIVER BASIN
DIURNAL MONITORING RESULTS
AUG. 7-8, 1985
MONTANA WATER QUALITY BUREAU
DISSOLVED OXYGEN (MG/L)
10.0
9.6
9.2
8.8
8.4
8.0
7.6
7.2
7.4
7.6
7.8
8.0
8.2
8.4
TIME (DAYS, 7.5 = NOON OF AUG. 7)
ABOVE FLATHEAD R.
FLATHEAD R. AT MOUTH
AT PLAINS

FIGURE 16

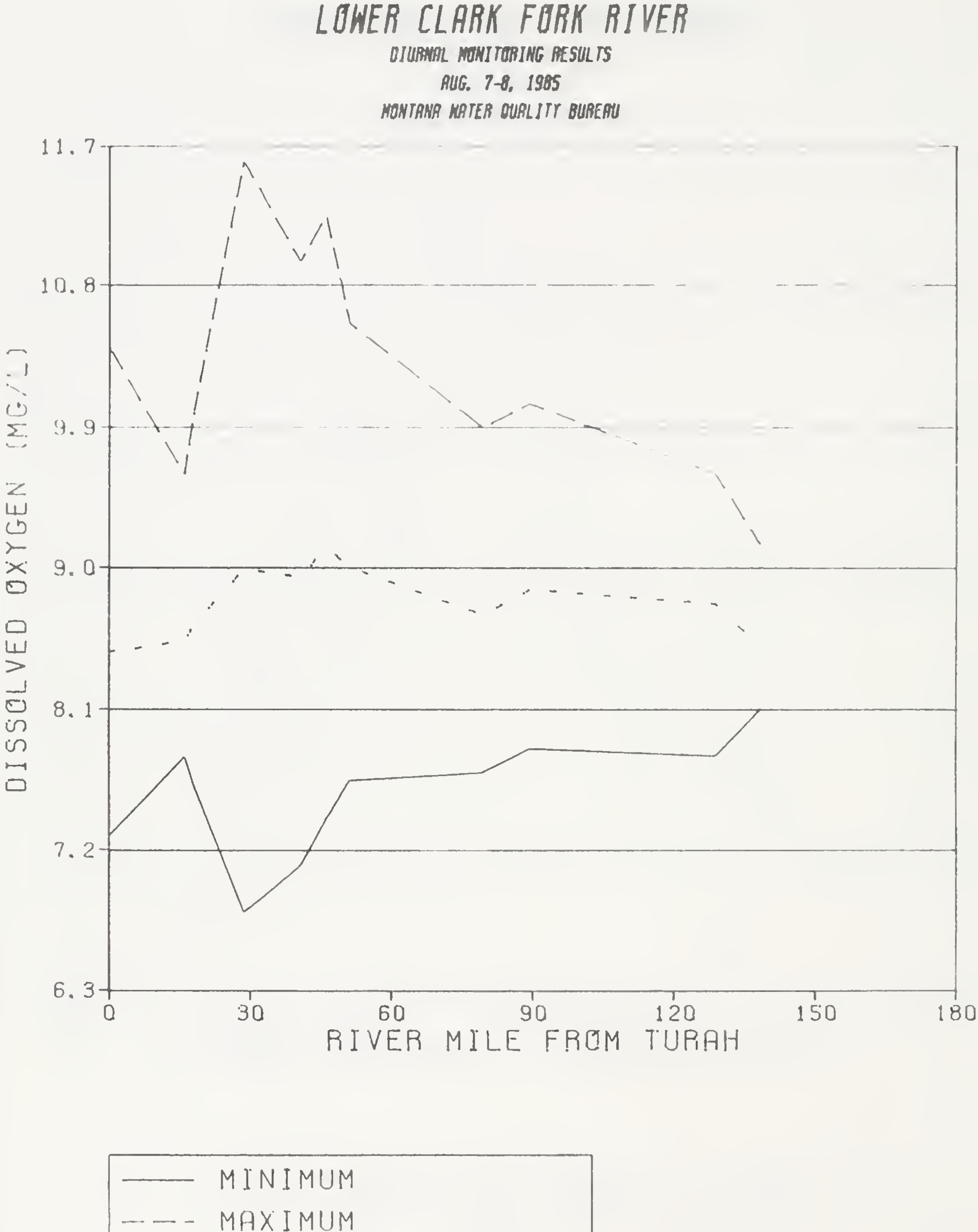

LOWER CLARK FORK RIVER
DIURNAL MONITORING RESULTS
AUG. 7-8, 1985
MONTANA WATER QUALITY BUREAU
11.7
10.8
9.9
9.0
8.1
7.2
6.3
DISSOLVED OXYGEN (MG/L)
0
30
60
90
120
150
180
RIVER MILE FROM TURAH
MINIMUM
MAXIMUM
TIME-WEIGHTED MEAN

FIGURE 17

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 7-8, 1985

MONTANA WATER QUALITY BUREAU

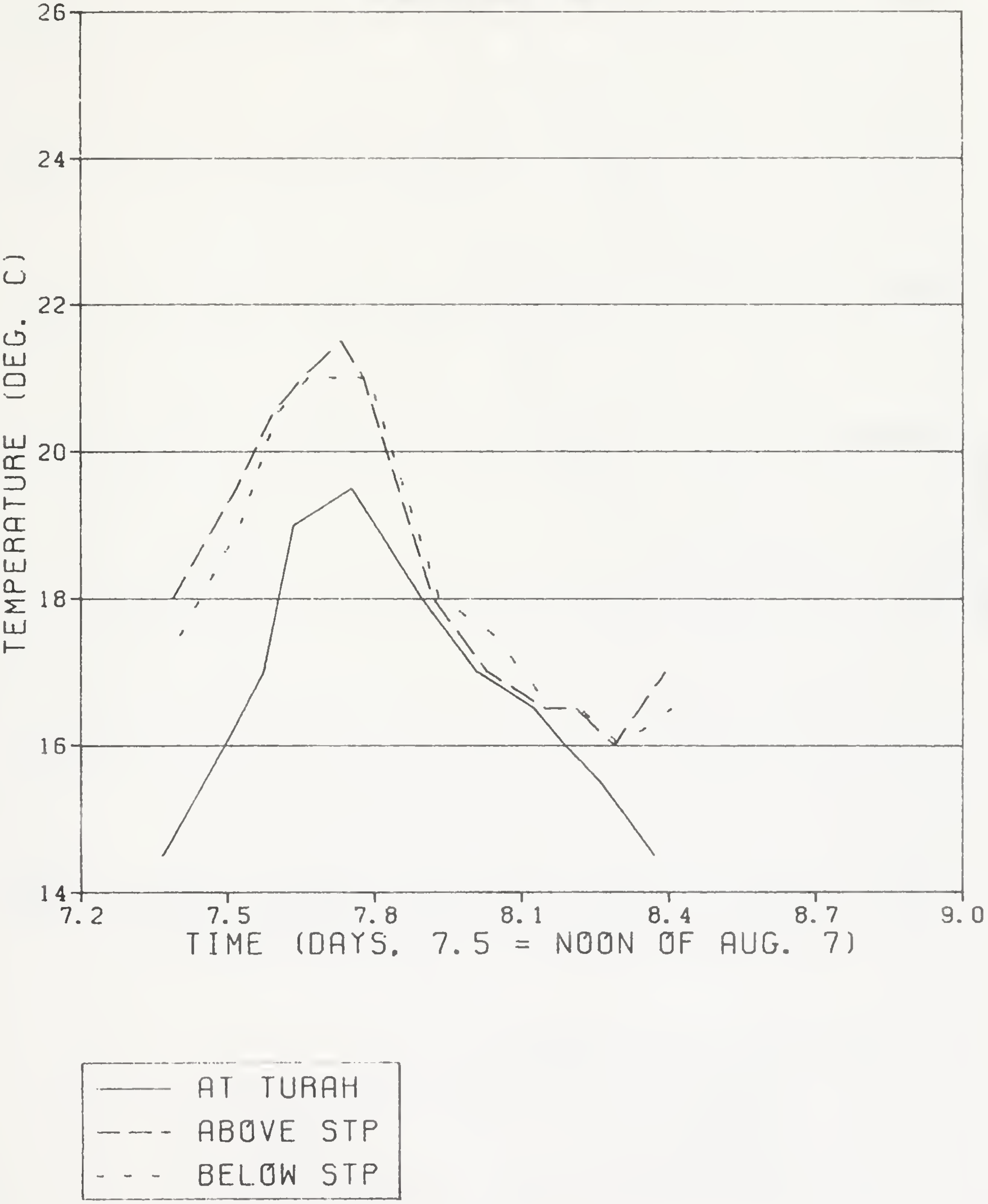


FIGURE 18

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 7-8, 1985

MONTANA WATER QUALITY BUREAU

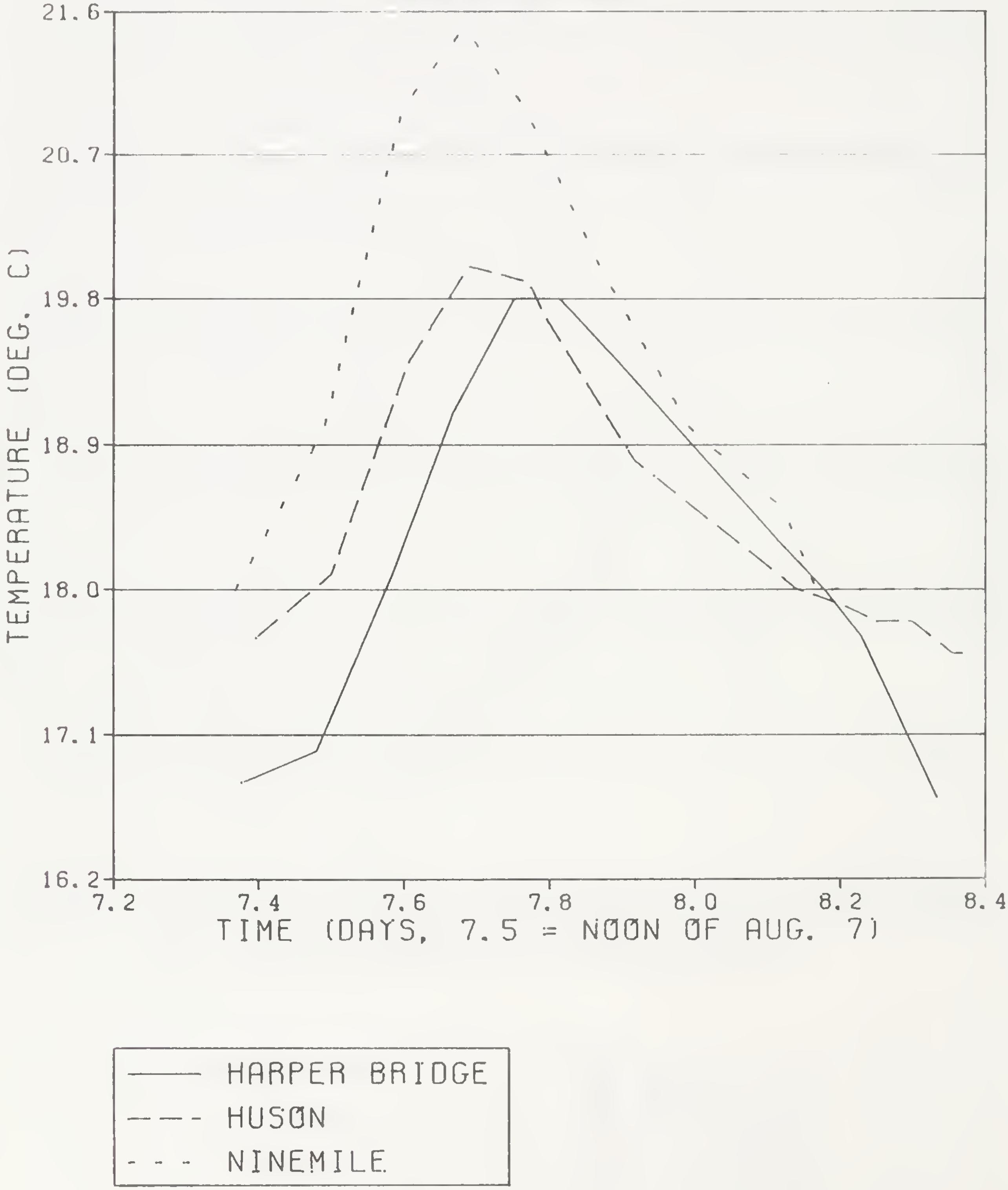


FIGURE 19

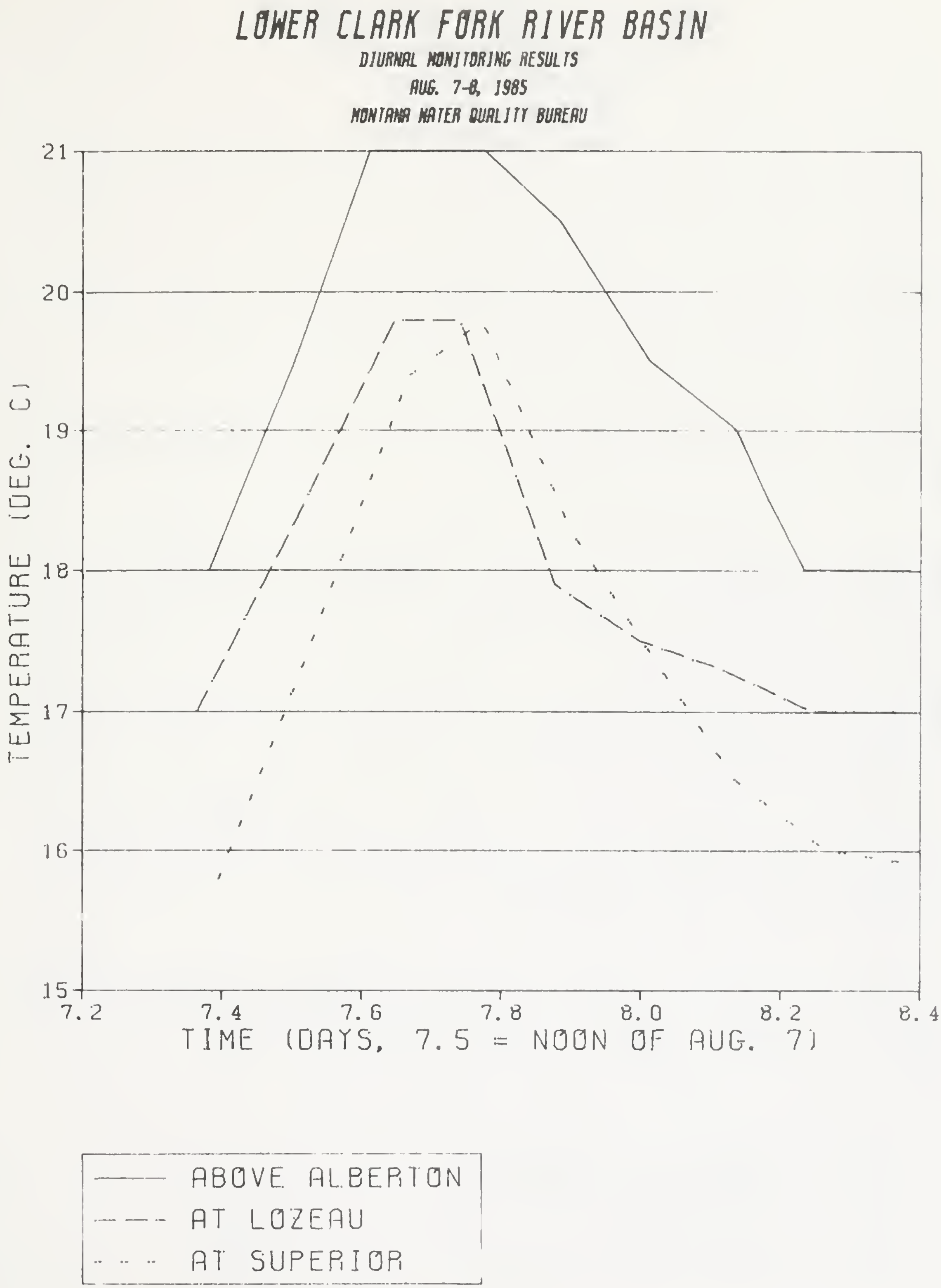

LOWER CLARK FORK RIVER BASIN
DIURNAL MONITORING RESULTS
AUG. 7-8, 1985
MONTANA WATER QUALITY BUREAU
21
20
19
18
17
16
15
TEMPERATURE (DEG. C)
7.2
7.4
7.6
7.8
8.0
8.2
8.4
TIME (DAYS, 7.5 = NOON OF AUG. 7)
ABOVE ALBERTON
AT LOZEAU
AT SUPERIOR

FIGURE 20

LOWER CLARK FORK RIVER BASIN

DIURNAL MONITORING RESULTS

AUG. 7-8, 1985

MONTANA WATER QUALITY BUREAU

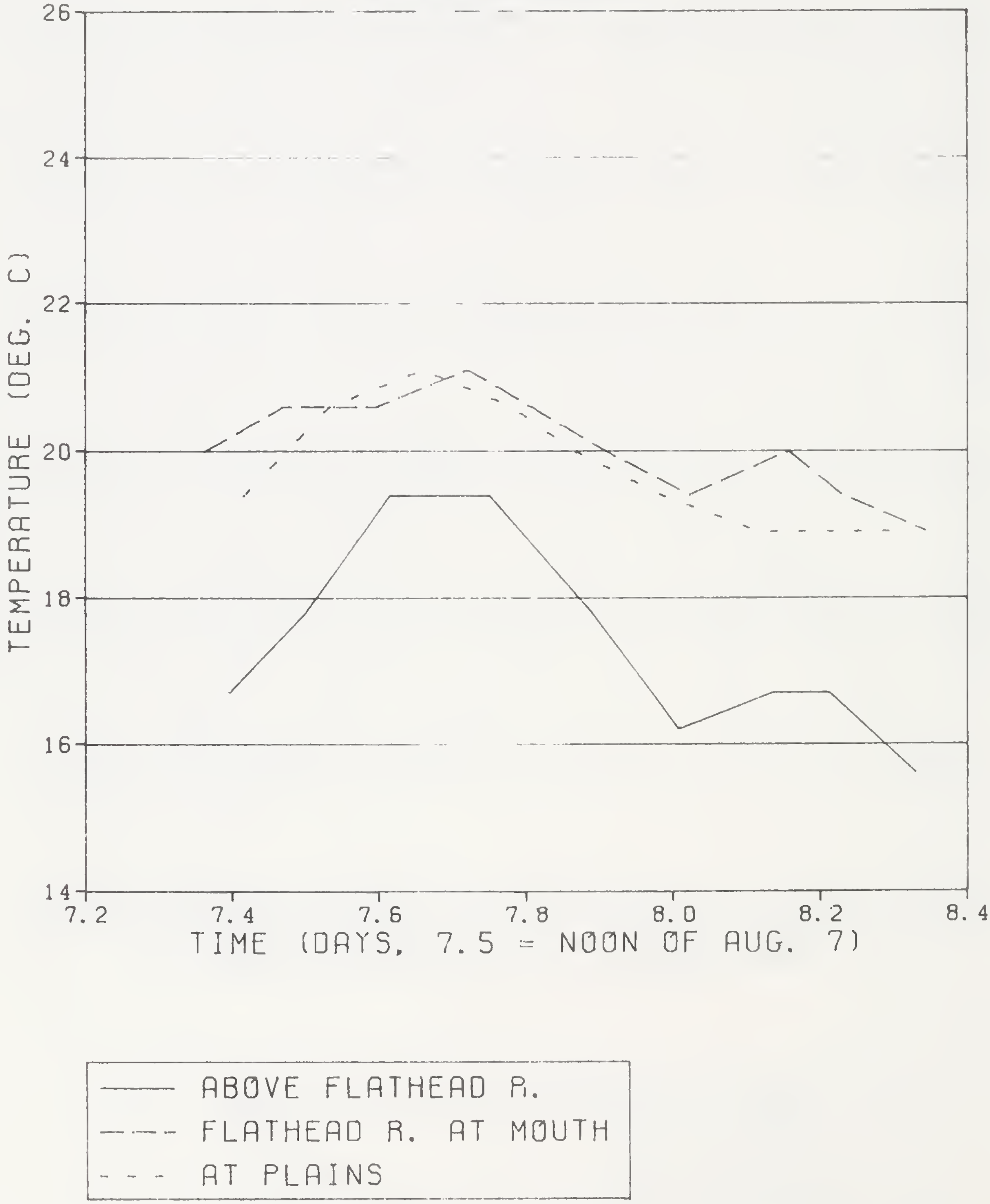
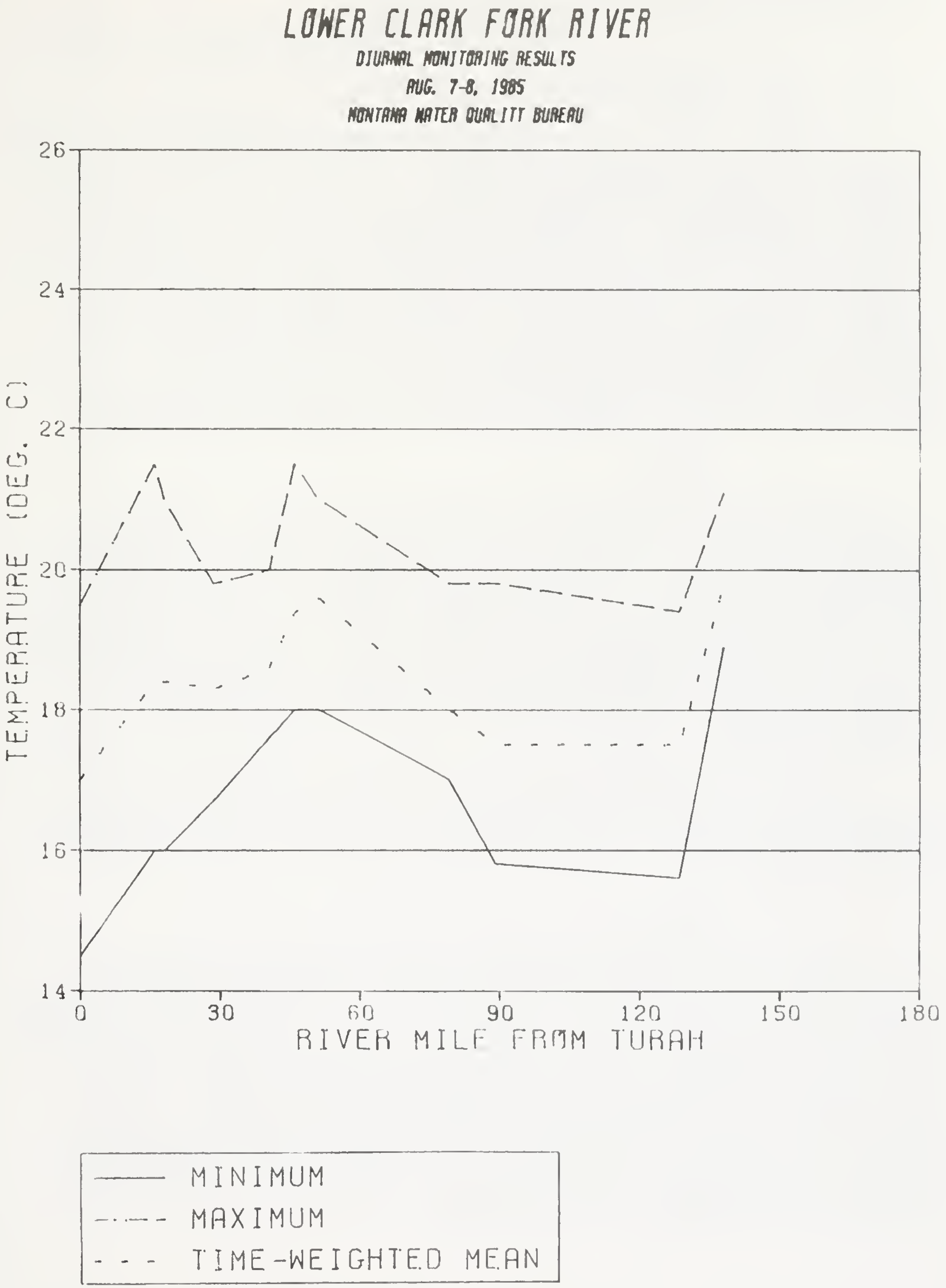


FIGURE 21


LOWER CLARK FORK RIVER
DIURNAL MONITORING RESULTS
AUG. 7-8, 1985
MONTANA WATER QUALITY BUREAU
TEMPERATURE (DEG. C)
26
24
22
20
18
16
14
0
30
60
90
120
150
180
RIVER MILE FROM TURAH
MINIMUM
MAXIMUM
TIME-WEIGHTED MEAN

B. Biological Water Quality Monitoring

1. Shallow-water Monitoring: River Stations

a. Rationale

Riffles are the most productive habitats in rivers for benthic algae and macroinvertebrates. The kinds and diversity of organisms living in these habitats tell a great deal about the nature and degree of stress placed upon a river by various water quality contaminants. Analysis of chlorophyll and biomass in grab samples of slime (microbial growth) from natural substrates on the river bottom will indicate the relative importance of producers (algae) and consumers (bacteria, fungi, etc.) in the benthic community and, in turn, the significance and cumulative effects of organic loading to the river. Measurements of algae production on artificial substrates (glass slides) will indicate the biostimulation effects of nutrients discharged by the Missoula Wastewater Treatment Plant and Champion International.

b. Methods

Biological sampling was conducted seasonally (spring, summer, fall) at each of 20 river stations. Samples routinely collected included traveling-kick macroinvertebrate samples and a composite sampling of the periphyton present at each station. A periphyton scraping from the natural substrates was collected for chlorophyll and biomass measurements at each station during the first three monitoring runs. Additionally, artificial substrates (periphytometers) were placed in the river at nine stations during the fall of 1983 and summer of 1984 for periphyton colonization and subsequent quantitative chlorophyll and biomass determinations.

Biological sample collection and analysis methods and the analyzing laboratory are summarized in Table 15. For some tests, references are made to the Appendix C. where lengthier methods are described.

c. Results

Species identifications and counts are given for each traveling-kick macroinvertebrate sample by season in Table 16. Shannon's species diversity (Margalef, 1958) and percent relative abundance data are given in Table 17. Note that for both Tables 16 and 17, the number at the beginning of each sample code denotes the sampling station number. Also note that the spring 1984 sampling consisted of one sample at each station. During successive seasonal samplings, four replicate samples were collected at each station (see description of macroinvertebrate sampling technique in Appendix C.). Czekanowski's similarity coefficients (Goodall, 1978) computed for pairs of stations are listed in the matrices in Table 18.

Periphyton analysis results and various community structure data are presented in Tables 19-21.

Chlorophyll and biomass data and various indices computed for both the natural and artificial substrate samples are tabulated in Tables 22 and 23.

Table 15. Sample Collection and Analysis Methods for Shallow-water Biological Monitoring

Variable	Collection Method	Analytical Method	Laboratory
Benthic Macroinvertebrate Community Structure	Modified traveling kicknet method described in Appendix B.	Species identifications and counts made using numerous current taxonomic references.	C. Evan Hornig (contractor)
Periphyton Community Structure	Composite sampling technique described in Appendix B.	Species identifications and counts made using numerous current taxonomic references.	MDHES WQB
Periphyton Chlorophyll and Biomass (mg/m^2 and $mg/m^2/day$)			
Natural Substrates Artificial Substrates	Sample collection and analysis techniques described in Appendix B.		MDHES Chem Lab and WQB

Table 16. Benthic Macroinvertebrate Sample Counts and Identifications
Spring, 1984

Shallow Water Stations - Kick Samples

01TUR3	
BAETIS TRICAUDAT	206
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	344
CINYGMULA SP. A	2
RHITHROGENA HAGE	70
PARALEPTOPHL MEM	2
AMELETUS SPARSAT	1
AMELETUS VELOX	1
CAPNIA-GROUP SP.	23
ALLOPERLA-GROUP	34
PROSTOIA BESAMET	50
ZAPADA CINCTIPES	1
CLAASSENI SABULO	8
CULTUS PILATUS	4
ISOGENOIDES ELON	5
ISOPERLA FULVA	123
ISOPERLA QUINQUE	33
PTERONARCELLA BA	32
PTERONARCYS CALI	1
TAENIONEMA PACIF	20
BRACHYCENTRUS AM	1
ARCTOPSYCHE GRAN	3
CHEUMATOPSYCHE	2
HYDROPSYCHE OCCI	31
SYMPHITOPSYCHE C	5
SYMPHITOPSYCHE S	17
LEPIDOSTOMA SP.A	1
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	1
ATHERIX VARIEGAT	3
MICROTENDIPES A	1
ORTHOCLADIUS (EU	1
ORTHOCLADIUS A	2
SIMULIUM SP. A	27
HEXATOMA SP.	1
TIPULA SP.	1

02BLW3	
BAETIS TRICAUDAT	313
DRUNELLA DODDSI	1
DRUNELLA GRANDIS	6
EPHEMERELLA INFR	98
RHITHROGENA HAGE	128
AMELETUS VELOX	3
ALLOPERLA-GROUP	68
PROSTOIA BESAMET	8
CALINEURIA CALIF	27
CLAASSENI SABULO	14
HESPEROPERLA PAC	18
CULTUS PILATUS	9
ISOGENOIDES ELON	2
ISOPERLA FULVA	208
PTERONARCYS CALI	46
TAENIONEMA PACIF	18
BRACHYCENTRUS OC	1
GLOSSOSOMA SP.	17
ARCTOPSYCHE GRAN	17
CHEUMATOPSYCHE	164
HYDROPSYCHE OCCI	12
SYMPHITOPSYCHE C	108
SYMPHITOPSYCHE S	137
PSYCHOMYIA FLAVI	3
RHYACOPHILA BIFI	3
PARARGYRACTIS SP	1
OPTIOSERVUS SPP.	22
ZAITZEVIA PARVUL	49
ATHERIX VARIEGAT	7
MICROTENDIPES A	2
DIAMESA SP. A	1
CRICOTOPUS SP. A	1
EUKIEFFERIELLA A	8
ORTHOCLADIUS (EU	2
ORTHOCLADIUS MAL	3
SIMULIUM SP. A	170
HEXATOMA SP.	6

04CFM3	
BAETIS TRICAUDAT	385
DRUNELLA GRANDIS	12
EPHEMERELLA INFR	144
RHITHROGENA HAGE	13
AMELETUS VELOX	4
CAPNIA-GROUP SP.	100
ALLOPERLA-GROUP	15
PROSTOIA BESAMET	9
CALINEURIA CALIF	1
CLAASSENI SABULO	1
HESPEROPERLA PAC	6
CULTUS PILATUS	3
ISOGENOIDES ELON	20
ISOPERLA FULVA	154
ISOPERLA QUINQUE	15
SKWALA PARALLELA	5
PTERONARCELLA BA	21
PTERONARCYS CALI	4
TAENIONEMA PACIF	106
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	55
HYDROPSYCHE OCCI	47
SYMPHITOPSYCHE C	55
SYMPHITOPSYCHE S	8
LEPIDOSTOMA SP.A	1
OECETIS SP.	1
PSYCHOMYIA FLAVI	5
RHYACOPHILA BIFI	2
OREODYTES SCITIL	1
OPTIOSERVUS SPP.	9
ZAITZEVIA PARVUL	8
ATHERIX VARIEGAT	4
MICROTENDIPES A	7
DIAMESA SP. A	3
BRILLIA SP.	2
ORTHOCLADIUS (EU	2
ORTHOCLADIUS OBU	2
TRISSOCLADIUS A	1
SIMULIUM SP. A	2
HEXATOMA SP.	5

05MIS3	
BAETIS TRICAUDAT	547
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	81
RHITHROGENA HAGE	125
AMELETUS SPARSAT	2
AMELETUS VELOX	3
CAPNIA-GROUP SP.	24
ALLOPERLA-GROUP	30
PROSTOIA BESAMET	2
CALINEURIA CALIF	1
CLAASSENI SABULO	1
HESPEROPERLA PAC	3
CULTUS PILATUS	6
ISOGENOIDES ELON	27
ISOPERLA FULVA	242
ISOPERLA QUINQUE	17
SKWALA PARALLELA	8
PTERONARCELLA BA	9
PTERONARCYS CALI	4
TAENIONEMA PACIF	44
ARCTOPSYCHE GRAN	1
CHEUMATOPSYCHE	9
HYDROPSYCHE OCCI	21
SYMPHITOPSYCHE C	21
SYMPHITOPSYCHE S	9
PSYCHOMYIA FLAVI	1
RHYACOPHILA BIFI	1
ZAITZEVIA PARVUL	1
ATHERIX VARIEGAT	1
ORTHOCLADIUS (EU	1
SIMULIUM SP. A	1

Table 16. Continued

06MIW3	
BAETIS TRICAUDAT	174
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	125
CINYGMULA SP. A	2
RHITHROGENA HAGE	15
AMELETUS VELOX	2
CAPNIA-GROUP SP.	20
ALLOPERLA-GROUP	4
PROSTOIA BESAMET	2
CALINEURIA CALIF	1
CLAASSENI SABULO	1
HESPEROPERLA PAC	2
CULTUS PILATUS	11
ISOGENOIDES ELON	10
ISOPERLA FULVA	58
ISOPERLA QUINQUE	30
SKWALA PARALLELA	5
PTERONARCELLA BA	8
PTERONARCYS CALI	8
TAENIONEMA PACIF	12
ARCTOPSYCHE GRAN	9
CHEUMATOPSYCHE	79
HYDROPSYCHE OCCI	37
SYMPHITOPSYCHE C	70
SYMPHITOPSYCHE S	3
PSYCHOMYIA FLAVI	8
RHYACOPHILA BIFI	1
ZAITZEVIA PARVUL	14
DIAMESA SP. A	3
DIAMESA SP. B	4
CRICOTOPUS SP. A	1
CRICOTOPUS SP. B	3
ORTHOCLADIUS (EU	12
ORTHOCLADIUS A	2
ORTHOCLADIUS B	1
ORTHOCLADIUS C	1
ORTHOCLADIUS MAL	1
ORTHOCLADIUS OBU	6
HEXATOMA SP.	3

08BMW3	
BAETIS TRICAUDAT	119
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	463
RHITHROGENA HAGE	10
AMELETUS VELOX	2
CAPNIA-GROUP SP.	14
ALLOPERLA-GROUP	1
PROSTOIA BESAMET	3
ZAPADA COLUMBIAN	1
CALINEURIA CALIF	2
CLAASSENI SABULO	8
HESPEROPERLA PAC	4
CULTUS PILATUS	68
ISOGENOIDES ELON	40
ISOPERLA FULVA	130
ISOPERLA QUINQUE	93
PTERONARCELLA BA	19
PTERONARCYS CALI	2
TAENIONEMA PACIF	18
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	84
HYDROPSYCHE OCCI	63
SYMPHITOPSYCHE C	50
SYMPHITOPSYCHE S	7
HYDROPTILA SP.	2
PSYCHOMYIA FLAVI	4
PARARGYRACTIS SP	8
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	11
MICROTENDIPES A	3
PHAENOPSECTRA SP	1
DIAMESA SP. A	1
DIAMESA SP. B	16
PAGASTIA SP.	1
CRICOTOPUS SP. B	5
EUKIEFFERIELLA A	2
ORTHOCLADIUS (EU	4
ORTHOCLADIUS B	7
ORTHOCLADIUS OBU	12
ABLABESMYIA SP.	1
WIEDEMANNIA SP.	1
SIMULIUM SP. A	1
HEXATOMA SP.	2
OLIGOCHAETA	4

Table 16. Continued

09SHE3	
BAETIS TRICAUDAT	77
EPHEMERELLA INFR	326
RHITHROGENA HAGE	7
PARALEPTOPHL MEM	1
AMELETUS VELOX	8
CAPNIA-GROUP SP.	43
ALLOPERLA-GROUP	1
PROSTOIA BESAMET	1
CLAASSENI SABULO	3
CULTUS PILATUS	4
ISOGENOIDES ELON	43
ISOPERLA FULVA	72
ISOPERLA QUINQUE	41
SKWALA PARALLELA	9
PTERONARCELLA BA	3
TAENIONEMA PACIF	9
ARCTOPSYCHE GRAN	1
CHEUMATOPSYCHE	66
HYDROPSYCHE OCCI	34
SYMPHITOPSYCHE C	20
SYMPHITOPSYCHE S	6
OECETIS SP. A	1
PSYCHOMYIA FLAVI	6
PARARGYRACTIS SP	5
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	4
ATHERIX VARIEGAT	2
MICROTENDIPES A	2
PARACLADOPELMA	1
DIAMESA SP. A	1
DIAMESA SP. B	8
CRICOTOPUS SP. B	1
CRICOTOPUS SP. C	1
EUKIEFFERIELLA A	1
EUKIEFFERIELLA B	2
EUKIEFFERIELLA C	1
ORTHOCLADIUS (EU	13
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	25
WIEDEMANNIA SP.	1
HEXATOMA SP.	2

10BRM3	
BAETIS TRICAUDAT	98
DRUNELLA GRANDIS	15
EPHEMERELLA INFR	316
RHITHROGENA HAGE	72
PARALEPTOPHL MEM	3
CAPNIA-GROUP SP.	50
ALLOPERLA-GROUP	1
CLAASSENI SABULO	18
CULTUS PILATUS	6
ISOGENOIDES ELON	5
ISOPERLA FULVA	35
ISOPERLA QUINQUE	21
SKWALA PARALLELA	2
PTERONARCELLA BA	23
TAENIONEMA PACIF	53
GLOSSOSOMA SP.	1
ARCTOPSYCHE GRAN	5
CHEUMATOPSYCHE	206
HYDROPSYCHE OCCI	298
SYMPHITOPSYCHE C	31
SYMPHITOPSYCHE S	6
HYDROPTILA SP.	8
LEPIDOSTOMA SP.A	4
PARARGYRACTIS SP	2
OREODYTES SCITIL	1
OPTIOSERVUS SPP.	104
ZAITZEVIA PARVUL	32
ATHERIX VARIEGAT	6
MICROPSECTRA SP.	5
DIAMESA SP. B	3
PAGASTIA SP.	5
CRICOTOPUS SP. A	12
CRICOTOPUS SP. B	14
EUKIEFFERIELLA C	5
ORTHOCLADIUS (EU	8
ORTHOCLADIUS OBU	5
SIMULIUM SP. A	67
HEXATOMA SP.	3
TIPULA SP.	5
OLIGOCHAETA LUMB	15
TURBELLARIA	3

11HAR3	
BAETIS TRICAUDAT	250
EPHEMERELLA INFR	565
RHITHROGENA HAGE	120
AMELETUS VELOX	2
CAPNIA-GROUP SP.	1
CLAASSENI SABULO	9
CULTUS PILATUS	57
ISOGENOIDES ELON	46
ISOPERLA FULVA	168
ISOPERLA QUINQUE	85
SKWALA PARALLELA	1
PTERONARCELLA BA	25
PTERONARCYS CALI	4
TAENIONEMA PACIF	46
ARCTOPSYCHE GRAN	6
CHEUMATOPSYCHE	59
HYDROPSYCHE OCCI	112
SYMPHITOPSYCHE C	2
SYMPHITOPSYCHE S	1
HYDROPTILA SP.	66
LEPIDOSTOMA SP.A	2
OECETIS SP. A	2
PARARGYRACTIS SP	1
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	4
ATHERIX VARIEGAT	6
MICROPSECTRA SP.	1
MICROTENDIPES A	1
DIAMESA SP. A	1
DIAMESA SP. B	12
PAGASTIA SP.	3
CRICOTOPUS SP. A	10
CRICOTOPUS SP. B	13
EUKIEFFERIELLA B	1
EUKIE ERIELLA C	2
ORTHOCLADIUS (EU	60
ORTHOCLADIUS A	1
ORTHOCLADIUS B	2
ORTHOCLADIUS MAL	1
ORTHOCLADIUS OBU	47
TRISSOCLADIUS A	1
CHELIFERA SP.	1
PROSIMULIUM SP.	1
SIMULIUM SP. A	187
HEXATOMA SP.	21

13BCH3	
BAETIS TRICAUDAT	107
EPHEMERELLA INFR	288
RHITHROGENA HAGE	212
PARALEPTOPHL MEM	2
AMELETUS VELOX	2
CAPNIA-GROUP SP.	19
ALLOPERLA-GROUP	7
CALINEURIA CALIF	1
CLAASSENI SABULO	31
HESPEROPERLA PAC	6
CULTUS PILATUS	25
ISOGENOIDES ELON	37
ISOPERLA FULVA	157
ISOPERLA QUINQUE	36
SKWALA PARALLELA	7
PTERONARCELLA BA	31
PTERONARCYS CALI	1
TAENIONEMA PACIF	50
BRACHYCENTRUS OC	1
ARCTOPSYCHE GRAN	7
CHEUMATOPSYCHE	37
HYDROPSYCHE OCCI	57
SYMPHITOPSYCHE C	5
HYDROPTILA SP.	16
LEPIDOSTOMA SP.A	1
OECETIS SP. A	6
PSYCHOMYIA FLAVI	2
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	9
ATHERIX VARIEGAT	12
CHIRONOMUS SP.	1
MICROTENDIPES A	10
DIAMESA SP. B	2
PAGASTIA SP.	4
POTTHASTIA SP.	1
CRICOTOPUS SP. A	2
ORTHOCLADIUS (EU	5
ORTHOCLADIUS D	1
ORTHOCLADIUS OBU	8
TRISSOCLADIUS A	1
SIMULIUM SP. A	69
HEXATOMA SP.	41
TIPULA SP.	2

15HUS3	
BAETIS TRICAUDAT	153
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	616
RHITHROGENA HAGE	296
PARALEPTOPHL MEM	1
AMELETUS SPARSAT	15
CAPNIA-GROUP SP.	15
CALINEURIA CALIF	2
CLAASSENI SABULO	6
HESPEROPERLA PAC	6
CULTUS PILATUS	15
ISOGENOIDES ELON	46
ISOPERLA FULVA	112
ISOPERLA QUINQUE	37
SKWALA PARALLELA	12
PTERONARCELLA BA	22
PTERONARCYS CALI	5
TAENIONEMA PACIF	23
BRACHYCENTRUS OC	1
ARCTOPSYCHE GRAN	1
CHEUMATOPSYCHE	11
HYDROPSYCHE OCCI	23
SYMPHITOPSYCHE C	3
HYDROPTILA SP.	58
OECETIS SP. A	2
PSYCHOMYIA FLAVI	2
PARARGYRACTIS SP	1
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	6
ZAITZEVIA PARVUL	7
ATHERIX VARIEGAT	5
MICROTENDIPES A	48
DIAMESA SP. A	1
DIAMESA SP. B	1
EUKIEFFERIELLA C	1
ORTHOCLADIUS (EU	13
ORTHOCLADIUS B	2
ORTHOCLADIUS D	1
ORTHOCLADIUS OBU	5
TRISSOCLADIUS A	2
ABLABESMYIA SP.	1
DIPTERA-DOLICHOP	1
SIMULIUM SP. A	14
HEXATOMA SP.	22
TIPULA SP.	1

19LOZ3	
BAETIS TRICAUDAT	265
DRUNELLA GRANDIS	8
EPHEMERELLA INFR	953
HEPTAGENIA SOLIT	5
RHITHROGENA HAGE	37
PARALEPTOPHL MEM	60
CAPNIA-GROUP SP.	9
PROSTOIA BESAMET	5
CLAASSENI SABULO	1
HESPEROPERLA PAC	1
CULTUS PILATUS	78
ISOGENOIDES ELON	38
ISOPERLA FULVA	71
ISOPERLA QUINQUE	53
SKWALA PARALLELA	2
PTERONARCYS CALI	1
TAENIONEMA PACIF	23
BRACHYCENTRUS OC	1
CHEUMATOPSYCHE	40
HYDROPSYCHE OCCI	39
SYMPHITOPSYCHE C	10
HYDROPTILA SP.	6
PSYCHOMYIA FLAVI	2
OPTIOSERVUS SPP.	2
MICROPSECTRA SP.	2
MICROTENDIPES A	1
DIAMESA SP. A	6
DIAMESA SP. B	2
PAGASTIA SP.	34
CRICOTOPUS SP. A	4
CRICOTOPUS SP. B	2
EUKIEFFERIELLA A	1
ORTHOCLADIUS (EU	60
ORTHOCLADIUS B	12
ORTHOCLADIUS D	3
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	15
TRISSOCLADIUS A	2

Table 16. Continued

21STR3	
BAETIS TRICAUDAT	605
DRUNELLA GRANDIS	3
EPHEMERELLA INFR	1492
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	314
PARALEPTOPHL MEM	115
AMELETUS VELOX	6
CAPNIA-GROUP SP.	4
PROSTOIA BESAMET	6
CULTUS PILATUS	13
ISOGENOIDES ELON	18
ISOPERLA FULVA	38
ISOPERLA QUINQUE	61
TAENIONEMA PACIF	61
CHEUMATOPSYCHE	10
HYDROPSYCHE OCCI	10
SYMPHITOPSYCHE C	2
SYMPHITOPSYCHE S	1
HYDROPTILA SP.	3
LEPIDOSTOMA SP.A	1
PSYCHOMYIA FLAVI	1
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	3
MICROPSECTRA SP.	1
MICROTENDIPES A	5
DIAMESA SP. A	3
DIAMESA SP. B	24
PAGASTIA SP.	19
CRICOTOPUS SP. B	5
ORTHOCLADIUS (EU	149
ORTHOCLADIUS B	15
ORTHOCLADIUS D	7
ORTHOCLADIUS MAL	6
ORTHOCLADIUS OBU	57
TRISSOCLADIUS A	24
SIMULIUM SP. A	2

24APL3	
BAETIS TRICAUDAT	23
EPHEMERELLA INFR	8
HEPTAGENIA SOLIT	6
RHITHROGENA HAGE	6
STENONEMA SP.	1
PARALEPTOPHL MEM	74
ISOGENOIDES ELON	2
TAENIONEMA PACIF	10
CHEUMATOPSYCHE	1
ZAITZEVIA PARVUL	1
DICROTENDIPES SP	1
MICROPSECTRA SP.	2
DIAMESA SP. A	1
DIAMESA SP. B	53
PAGASTIA SP.	7
CRICOTOPUS SP. B	58
EUKIEFFERIELLA D	2
ORTHOCLADIUS (EU	220
ORTHOCLADIUS B	8
ORTHOCLADIUS D	5
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	269
TRISSOCLADIUS A	81
SIMULIUM SP. A	9

27TFR3	
BAETIS TRICAUDAT	1
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	2
CINYGMULA SP. A	1
HEPTAGENIA SOLIT	11
STENONEMA SP.	132
PTERONARCYS CALI	1
TAENIONEMA PACIF	3
OPHIOGOMPHUS SP.	2
GLOSSOSOMA SP.	1
CHEUMATOPSYCHE	76
HYDROPSYCHE SP.A	14
HYDROPSYCHE OCCI	10
SYMPHITOPSYCHE C	44
HYDROPTILA SP.	25
ZUMATRICHIA NOTO	1
CERACLEA SP.	34
OECETIS SP. A	1
PSYCHOMYIA FLAVI	20
PARARGYRACTIS SP	7
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	13
MICROPSECTRA SP.	1
MICROTENDIPES A	17
DIAMESA SP. B	5
PAGASTIA SP.	68
CRICOTOPUS SP. A	5
CRICOTOPUS SP. B	1
EUKIEFFERIELLA A	1
EUKIEFFERIELLA C	6
ORTHOCLADIUS (EU	9
ORTHOCLADIUS B	10
ORTHOCLADIUS MAL	3
ORTHOCLADIUS OBU	56
TRISSOCLADIUS A	10
SIMULIUM SP. A	1
FERRISSIA SP.	1

Table 16. Continued

09C-10Q	
BAETIS INSIGNIFI	20
BAETIS TRICAUDAT	16
EPHEMERELLA INFR	844
HEPTAGENIA SOLIT	16
RHITHROGENA HAGE	180
PARALEPTOPHL MEM	24
AMELETUS VELOX	4
CLAASSENI SABULO	8
HESPEROPERLA PAC	12
ISOGENOIDES ELON	12
ISOPERLA FULVA	60
ISOPERLA QUINQUE	4
SKWALA PARALLELA	8
PTERONARCYS CALI	4
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	464
HYDROPSYCHE OCCI	380
SYMPHITOPS COCKE	48
HYDROPTILA SP.	108
OECETIS SP. A	12
PSYCHOMYIA FLAVI	16
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	32
MICROTENDIPES SP	60
PHAENOPSECTRA SP	16
TANYTARSUS SP. B	8
CRICOTOPUS SP. B	12
EUKIEFFERIELLA B	28
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	32
CHELIFERA SP.	4

09D-10Q	
BAETIS INSIGNIFI	12
BAETIS TRICAUDAT	8
EPHEMERELLA INFR	544
HEPTAGENIA SOLIT	8
RHITHROGENA HAGE	48
PARALEPTOPHL MEM	8
AMELETUS VELOX	12
CAPNIA-GROUP SP.	16
HESPEROPERLA PAC	4
ISOGENOIDES ELON	4
ISOPERLA FULVA	4
ISOPERLA QUINQUE	4
SKWALA PARALLELA	4
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	104
HYDROPSYCHE OCCI	72
SYMPHITOPS COCKE	36
HYDROPTILA SP.	144
OECETIS SP. A	8
PSYCHOMYIA FLAVI	72
MICROTENDIPES SP	28
PHAENOPSECTRA SP	48
TANYTARSUS SP. B	84
CRICOTOPUS SP. B	12
EUKIEFFERIELLA H	4
ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	140
SYNORTHOCLADIUS	8
OLIGOCHAETA	4

Table 16. Continued

10A-10Q	
BAETIS INSIGNIFI	8
BAETIS TRICAUDAT	44
CENTROPTILU SP.A	4
EPHEMERELLA INFR	184
HEPTAGENIA SOLIT	24
RHITHROGENA HAGE	44
PARALEPTOPHL MEM	32
AMELETUS VELOX	12
CLAASSENI SABULO	12
ISOGENOIDES ELON	4
ISOPERLA FULVA	16
PTERONARCELLA BA	4
TAENIONEMA PACIF	4
BRACHYCENTRUS OC	16
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	148
HYDROPSYCHE OCCI	248
SYMPHITOPS COCKE	44
SYMPHITOPS SLOSS	4
HYDROPTILA SP.	108
PSYCHOMYIA FLAVI	4
PARARGYRACTIS SP	8
OPTIOSERVUS SPP.	152
ZAITZEVIA PARVUL	36
ATHERIX VARIEGAT	4
MICROPSECTR SP.A	16
TANYTARSUS SP. B	4
CRICOTOPUS SP. B	32
EUKIEFFERIELLA B	104
EUKIEFFERIELLA H	12
SIMULIUM SP.	84
ANTOCHA SP.	4
HIRUDINEA	4

10B-10Q	
BAETIS INSIGNIFI	20
BAETIS TRICAUDAT	[illegible]
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	468
CINYGMULA SP.	4
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	132
PARALEPTOPHL MEM	16
AMELETUS VELOX	8
CLAASSENI SABULO	36
HESPEROPERLA PAC	4
CULTUS PILATUS	4
ISOPERLA FULVA	60
SKWALA PARALLELA	4
PTERONARCELLA BA	[illegible]
TAENIONEMA PACIF	4
BRACHYCENTRUS OC	[illegible]
ARCTOPSYCHE GRAN	[illegible]
CHEUMATOPSYCHE	300
HYDROPSYCHE OCCI	460
SYMPHITOPS COCKE	156
SYMPHITOPS SLOSS	8
HYDROPTILA SP.	360
LEUCOTRICHIA PIC	4
OECETIS SP. A	8
PSYCHOMYIA FLAVI	8
PARARGYRACTIS SP	8
OPTIOSERVUS SPP.	280
ZAITZEVIA PARVUL	84
MICROPSECTR SP.A	24
MICROTENDIPES SP	4
POLYPEDILUM SP.A	4
TANYTARSUS SP. B	4
PAGASTIA SP.	4
CRICOTOPUS SP. B	4
EUKIEFFERIELLA B	[illegible]
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	8
THIENEMANIELL SP	4
CHELIFERA SP.	8
WIEDEMANNIA SP.	8
SIMULIUM SP.	20
ANTOCHA SP.	32
OLIGOCHAETA LUMB	16

Table 16. Deep Water Monitoring Stations - Petite Ponar Grab Samples

P03MT3	
CHIRONOMUS SP.	1
ORMOSIA SP.	1
OLIGOCHAETA	9

P16BN3	
CHIRONOMUS SP.	3
CRYPTOCHIRONOMUS	2
PHAENOPSECTRA SP	1
MONODIAMESA SP.	1
HETEROTRISSOCLAD	1
ORTHOCLADIUS OBU	5
TRISSOCLADIUS A	1
HEXATOMA SP.	1
OLIGOCHAETA	126

P26TF3	
ISCHNURA SP.	1
PARARGYRACTIS SP	1
ZAITZEVIA PARVUL	1
CHIRONOMUS SP.	45
CRYPTOCHIRONOMUS	1
MICROPSECTRA SP.	2
PHAENOPSECTRA SP	10
PSEUDOCHIRONOMUS	2
MONODIAMESA SP.	1
CRICOTOPUS SP. B	1
EUKIEFFERIELLA B	1
ORTHOCLADIUS (EU	1
TRISSOCLADIUS A	6
PROCLADIUS SP.	4
OLIGOCHAETA	134

P28NR3	
LEPTOPHLEBIA GRA	1
PALPOMYIA-GP SP.	2
DICROTENDIPES SP	1
MICROPSECTRA SP.	2
ORTHOCLADIUS OBU	1
PROCLADIUS SP.	31
OLIGOCHAETA	48

P30CG3	
OECETIS SP. B	1
PALPOMYIA-GP SP.	1
CRYPTOCHIRONOMUS	1
MICROPSECTRA SP.	2
POLYPEDILUM SP.B	1
PSEUDOCHIRONOMUS	19
HETEROTRISSOCLAD	1
ORTHOCLADIUS E	18
ORTHOCLADIUS NIG	1
ORTHOCLADIUS OBU	1
PROCLADIUS SP.	9
OLIGOCHAETA	1

Table 16. Benthic Macroinvertebrate Sample Counts and Identifications
Summer, 1984.
Shallow Water Stations - Kick Samples

01A-8H*	
BAETIS INSIGNIFI	134
BAETIS TRICAUDAT	252
ATTENELLA MARGAR	104
DRUNELLA FLAVILI	4
DRUNELLA GRANDIS	10
SERRATELLA TIBIA	44
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	26
RHITHROGENA HAGE	14
TRICORYTHODES MI	108
ALLOPERLA-GROUP	6
ZAPADA CINCTIPES	2
CLAASSENI SABULO	12
ISOPERLA QUINQUE	2
SKWALA PARALLELA	26
PTERONARCELLA BA	90
ARCTOPSYCHE GRAN	64
CHEUMATOPSYCHE	8
HYDROPSYCHE OCCI	82
SYMPHITOPS COCKE	30
HYDROPTILA SP.	42
NEOTRICHIA SP.	8
OPTIOSERVUS SPP.	40
ZAITZEVIA PARVUL	28
ATHERIX VARIEGAT	16
MICROPSECTR SP.A	2
MICROPSECTR SP.C	4
PARACLADOPE SP.B	2
POLYPEDILUM SP.A	50
PAGASTIA SP.	2
CARDIOCLADI SP.C	2
CRICOTOPUS SP. B	6
EUKIEFFERIELLA B	86
EUKIEFFERIELLA E	36
HETEROTRISSOCLAD	24
ORTHOCLADIUS F	2
ORTHOCLADIUS NIG	28
ORTHOCLADIUS OBU	2
ABLABESMYIA SP.	2
SIMULIUM SP.	44
HEXATOMA SP.	4

01B-8H	
BAETIS INSIGNIFI	124
BAETIS TRICAUDAT	218
CENTROPTILU SP.A	4
ATTENELLA MARGAR	88
SERRATELLA TIBIA	48
NIXE SIMPLICIOID	40
RHITHROGENA HAGE	14
TRICORYTHODES MI	104
ALLOPERLA-GROUP	14
CLAASSENI SABULO	12
ISOGENOIDES ELON	28
SKWALA PARALLELA	2
PTERONARCELLA BA	46
ARCTOPSYCHE GRAN	50
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	26
SYMPHITOPS COCKE	24
HYDROPTILA SP.	52
NEOTRICHIA SP.	6
OPTIOSERVUS SPP.	14
ZAITZEVIA PARVUL	16
ATHERIX VARIEGAT	4
MICROPSECTR SP.A	6
MICROPSECTR SP.C	2
MICROTENDIPES SP	2
POLYPEDILUM SP.A	56
PAGASTIA SP.	2
CARDIOCLADI SP.C	2
EUKIEFFERIELLA B	90
EUKIEFFERIELLA E	24
HETEROTRISSOCLAD	4
ORTHOCLADIUS B	2
ORTHOCLADIUS NIG	102
ORTHOCLADIUS OBU	2
ABLABESMYIA SP.	2
SIMULIUM SP.	34
HEXATOMA SP.	4

*H= half-sorted samples, counts here have been corrected (X2)
Q= quarter-sorted samples, counts here have been corrected (X4)

Table 16. Continued

01C-8H	
BAETIS INSIGNIFI	104
BAETIS TRICAUDAT	196
ATTENELLA MARGAR	100
DRUNELLA FLAVILI	2
DRUNELLA GRANDIS	4
SERRATELLA TIBIA	48
TIMPANOGA HECUBA	2
EPEORUS ALBERTAE	4
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	34
RHITHROGENA HAGE	24
TRICORYTHODES MI	92
ALLOPERLA-GROUP	4
MALENKA SP.	2
CLAASSENI SABULO	8
ISOGENOIDES ELON	56
SKWALA PARALLELA	6
PTERONARCELLA BA	108
PTERONARCYS CALI	2
ARCTOPSYCHE GRAN	84
CHEUMATOPSYCHE	16
HYDROPSYCHE OCCI	80
SYMPHITOPS COCKE	40
HYDROPTILA SP.	48
NEOTRICHIA SP.	6
OPTIOSERVUS SPP.	30
ZAITZEVIA PARVUL	18
ATHERIX VARIEGAT	8
MICROPSECTR SP.A	6
MICROPSECTR SP.C	8
POLYPEDILUM SP.A	66
POLYPEDILUM SP.C	2
CARDIOCLADI SP.C	6
CRICOTOPUS SP. B	6
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	24
EUKIEFFERIELLA E	44
HETEROTRISSOCLAD	4
ORTHOCLADIUS B	6
ORTHOCLADIUS NIG	20
ABLABESMYIA SP.	2
SIMULIUM SP.	14
HEXATOMA SP.	12

01D-8H	
BAETIS INSIGNIFI	132
BAETIS TRICAUDAT	82
ATTENELLA MARGAR	64
DRUNELLA GRANDIS	8
SERRATELLA TIBIA	34
EPEORUS ALBERTAE	4
NIXE CRIDDLEI	4
NIXE SIMPLICIOID	26
RHITHROGENA HAGE	10
TRICORYTHODES MI	24
ALLOPERLA-GROUP	2
CLAASSENI SABULO	6
HESPEROPERLA PAC	2
ISOGENOIDES ELON	18
SKWALA PARALLELA	4
PTERONARCELLA BA	32
PTERONARCYS CALI	4
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	66
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	30
SYMPHITOPS COCKE	24
HYDROPTILA SP.	38
NEOTRICHIA SP.	6
OPTIOSERVUS SPP.	16
ZAITZEVIA PARVUL	12
ATHERIX VARIEGAT	8
MICROPSECTR SP.A	2
MICROPSECTR SP.C	2
POLYPEDILUM SP.A	10
POLYPEDILUM SP.C	2
CRICOTOPUS SP. B	2
EUKIEFFERIELLA B	52
EUKIEFFERIELLA E	22
HETEROTRISSOCLAD	4
ORTHOCLADIUS B	2
ORTHOCLADIUS NIG	46
ABLABESMYIA SP.	2
SIMULIUM SP.	20

02A-8	
BAETIS BICAUDATU	1
BAETIS FLAVISTRI	5
BAETIS HAGENI	11
BAETIS INSIGNIFI	147
BAETIS TRICAUDAT	95
DRUNELLA DODDSI	3
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	1
SERRATELLA TIBIA	115
EPEORUS ALBERTAE	19
NIXE CRIDDLEI	4
RHITHROGENA HAGE	5
PARALEPTOPHL DEB	1
ALLOPERLA-GROUP	6
CALINEURIA CALIF	11
CLAASSENI SABULO	13
HESPEROPERLA PAC	1
SKWALA PARALLELA	2
PTERONARCYS CALI	5
GLOSSOSOMA SP.	1
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	5
HYDROPSYCHE OCCI	3
SYMPHITOPS COCKE	25
LEUCOTRICHIA PIC	1
NEOTRICHIA SP.	6
DICOSMOECUS SP.	3
WORMALDIA SP.	1
PSYCHOMYIA FLAVI	3
OPTIOSERVUS SPP.	36
ZAITZEVIA PARVUL	43
ATHERIX VARIEGAT	1
CLADOTANYSARSU B	1
MICROTENDIPES SP	27
PHAENOPSECTRA SP	1
POLYPEDILUM SP.A	10
TANYTARSUS SP. B	55
PSECTROCLADIUS C	1
SIMULIUM SP.	1
ANTOCHA SP.	2
HEXATOMA SP.	12

02B-8	
BAETIS FLAVISTRI	13
BAETIS HAGENI	21
BAETIS INSIGNIFI	92
BAETIS TRICAUDAT	68
ATTENELLA MARGAR	5
DRUNELLA DODDSI	3
DRUNELLA GRANDIS	2
SERRATELLA TIBIA	65
TIMPANOGA HECUBA	1
EPEORUS ALBERTAE	20
RHITHROGENA HAGE	13
ALLOPERLA-GROUP	4
AMPHINEMURA SP.	1
CALINEURIA CALIF	14
CLAASSENI SABULO	12
HESPEROPERLA PAC	7
PTERONARCYS CALI	3
ARCTOPSYCHE GRAN	6
CHEUMATOPSYCHE	21
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	16
NEOTRICHIA SP.	8
DICOSMOECUS SP.	3
WORMALDIA SP.	4
PSYCHOMYIA FLAVI	2
NARPUS CONCOLOR	1
OPTIOSERVUS SPP.	55
ZAITZEVIA PARVUL	45
CLADOTANYSARSU B	2
MICROTENDIPES SP	29
POLYPEDILUM SP.A	22
TANYTARSUS SP. B	84
MONODIAMESA SP.	1
PAGASTIA SP.	1
CORYNONEURA SP.	2
EUKIEFFERIELLA A	1
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	2
THIENEMANIELL SP	2
ABLABESMYIA SP.	1
CHELIFERA SP.	3
ANTOCHA SP.	1
HEXATOMA SP.	11
PHYSA SP.	3
OLIGOCHAETA LUMB	2

Table 16. Continued

02C-8	
BAETIS FLAVISTRI	18
BAETIS HAGENI	19
BAETIS INSIGNIFI	66
BAETIS TRICAUDAT	63
ATTENELLA MARGAR	4
DRUNELLA DODDSI	2
DRUNELLA FLAVILI	2
DRUNELLA GRANDIS	4
SERRATELLA TIBIA	122
TIMPANOGA HECUBA	1
EPEORUS ALBERTAE	31
NIXE CRIDDLEI	1
RHITHROGENA HAGE	9
ALLOPERLA-GROUP	7
CALINEURIA CALIF	7
CLAASSENI SABULO	15
HESPEROPERLA PAC	1
PTERONARCYS CALI	27
GLOSSOSOMA SP.	8
ARCTOPSYCHE GRAN	11
CHEUMATOPSYCHE	31
HYDROPSYCHE OCCI	2
SYMPHITOPS COCKE	27
NEOTRICHIA SP.	9
DICOSMOECUS SP.	3
WORMALDIA SP.	7
OPTIOSERVUS SPP.	34
ZAITZEVIA PARVUL	68
ANACAENA SP.	1
CLADOTANYSARSU B	2
MICROTENDIPES SP	22
POLYPEDILUM SP.A	10
TANYTARSUS SP. B	92
CORYNONEURA SP.	1
EUKIEFFERIELLA E	5
ORTHOCLADIUS B	1
PSECTROCLADIUS C	2
THIENEMANIELL SP	1
CHELIFERA SP.	1
SIMULIUM SP.	3
HEXATOMA SP.	10
PHYSA SP.	2
OLIGOCHAETA LUMB	2

02D-8	
BAETIS FLAVISTRI	7
BAETIS HAGENI	9
BAETIS INSIGNIFI	64
BAETIS TRICAUDAT	53
ATTENELLA MARGAR	2
DRUNELLA GRANDIS	2
SERRATELLA TIBIA	45
EPEORUS ALBERTAE	15
RHITHROGENA HAGE	4
ALLOPERLA-GROUP	9
CALINEURIA CALIF	5
CLAASSENI SABULO	11
PTERONARCYS CALI	8
GLOSSOSOMA SP.	4
HELICOPSYCHE BOR	1
ARCTOPSYCHE GRAN	7
CHEUMATOPSYCHE	17
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	21
NEOTRICHIA SP.	2
DICOSMOECUS SP.	1
ONOCOSMOECUS SP.	1
WORMALDIA SP.	1
PSYCHOMYIA FLAVI	1
OPTIOSERVUS SPP.	33
ZAITZEVIA PARVUL	52
CLADOTANYSARSU B	5
MICROTENDIPES SP	11
POLYPEDILUM SP.A	22
TANYTARSUS SP. B	114
CARDIOCLADI SP.C	1
CORYNONEURA SP.	1
CRICOTOPUS SP. B	1
EUKIEFFERIELLA E	2
ORTHOCLADIUS B	2
PSECTROCLADIUS C	1
SIMULIUM SP.	1
ANTOCHA SP.	3
HEXATOMA SP.	15
PHYSA SP.	11
OLIGOCHAETA LUMB	1

Table 16. Continued

04A-8	
BAETIS HAGENI	1
BAETIS INSIGNIFI	68
BAETIS TRICAUDAT	57
CENTROPTILU SP.A	2
ATTENELLA MARGAR	30
EPHEMERELLA INFR	2
SERRATELLA TIBIA	27
TIMPANOGA HECUBA	1
EPEORUS ALBERTAE	3
NIXE SIMPLICIOID	33
RHITHROGENA HAGE	1
TRICORYTHODES MI	6
ALLOPERLA-GROUP	4
ZAPADA CINCTIPES	1
HESPEROPERLA PAC	1
ISOGENOIDES ELON	59
SKWALA PARALLELA	7
PTERONARCELLA BA	13
PTERONARCYS CALI	2
RHAGOVELIA SP.	16
ARCTOPSYCHE GRAN	6
CHEUMATOPSYCHE	19
HYDROPSYCHE OCCI	3
SYMPHITOPS COCKE	65
HYDROPTILA SP.	12
NEOTRICHIA SP.	1
WORMALDIA SP.	6
PSYCHOMYIA FLAVI	6
OPTIOSERVUS SPP.	5
ZAITZEVIA PARVUL	4
MICROPSECTR SP.A	3
MICROTENDIPES SP	5
PHAENOPSECTRA SP	1
POLYPEDILUM SP.A	21
TANYTARSUS SP. B	5
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	12
ORTHOCLADIUS B	6
ORTHOCLADIUS NIG	1
ORTHOCLADIUS OBU	15
SIMULIUM SP.	3

04B-8	
BAETIS HAGENI	3
BAETIS INSIGNIFI	105
BAETIS TRICAUDAT	123
ATTENELLA MARGAR	25
DRUNELLA DODDSI	1
DRUNELLA GRANDIS	12
SERRATELLA TIBIA	112
EPEORUS ALBERTAE	5
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	4
RHITHROGENA HAGE	8
ALLOPERLA-GROUP	1
CALINEURIA CALIF	1
CLAASSENI SABULO	3
HESPEROPERLA PAC	3
ISOGENOIDES ELON	35
ISOPERLA QUINQUE	2
SKWALA PARALLELA	5
PTERONARCELLA BA	34
PTERONARCYS CALI	6
ARCTOPSYCHE GRAN	21
CHEUMATOPSYCHE	34
HYDROPSYCHE OCCI	18
SYMPHITOPS COCKE	205
HYDROPTILA SP.	10
NEOTRICHIA SP.	4
WORMALDIA SP.	11
PSYCHOMYIA FLAVI	8
PARARGYRACTIS SP	1
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	16
ATHERIX VARIEGAT	1
PALPOMY-GP SP. A	1
MICROPSECTR SP.A	2
MICROPSECTR SP.B	1
MICROTENDIPES SP	4
PARACLADOPE SP.B	1
POLYPEDILUM SP.A	21
POLYPEDILUM SP.C	1
TANYTARSUS SP. B	11
PAGASTIA SP.	2
CARDIOCLADI SP.C	2
CRICOTOPUS SP. B	2
EUKIEFFERIELLA B	22
EUKIEFFERIELLA E	17
EUKIEFFERIELLA H	4
ORTHOCLADIUS B	13
ORTHOCLADIUS NIG	2
ORTHOCLADIUS OBU	4
ABLABESMYIA SP.	1
CHELIFERA SP.	1
SIMULIUM SP.	22
ANTOCHA SP.	6
HEXATOMA SP.	7

Table 16. Continued

04C-8	
BAETIS HAGENI	4
BAETIS INSIGNIFI	144
BAETIS TRICAUDAT	153
CENTROPTILU SP.A	5
ATTENELLA MARGAR	29
DRUNELLA GRANDIS	4
SERRATELLA TIBIA	87
TIMPANOGA HECUBA	1
EPEORUS ALBERTAE	12
NIXE CRIDDLEI	3
NIXE SIMPLICIOID	9
RHITHROGENA HAGE	7
PARALEPTOPHL DEB	1
TRICORYTHODES MI	6
ALLOPERLA-GROUP	2
CALINEURIA CALIF	2
CLAASSENI SABULO	1
HESPEROPERLA PAC	1
ISOGENOIDES ELON	41
SKWALA PARALLELA	5
PTERONARCELLA BA	33
PTERONARCYS CALI	5
ARCTOPSYCHE GRAN	25
CHEUMATOPSYCHE	37
HYDROPSYCHE OCCI	5
SYMPHITOPS COCKE	217
HYDROPTILA SP.	12
NEOTRICHIA SP.	2
WORMALDIA SP.	18
PSYCHOMYIA FLAVI	5
RHYACOPHILA ANGE	1
OPTIOSERVUS SPP.	17
ZAITZEVIA PARVUL	21
ATHERIX VARIEGAT	1
MICROPSECTR SP.A	2
MICROTENDIPES SP	2
POLYPEDILUM SP.A	19
TANYTARSUS SP. B	2
CRICOTOPUS SP. B	1
EUKIEFFERIELLA B	13
EUKIEFFERIELLA E	10
EUKIEFFERIELLA G	1
EUKIEFFERIELLA H	1
ORTHOCLADIUS B	13
ORTHOCLADIUS NIG	1
ORTHOCLADIUS OBU	7
CHELIFERA SP.	1
SIMULIUM SP.	33
ANTOCHA SP.	5
HEXATOMA SP.	3
OLIGOCHAETA	1

04D-8	
BAETIS HAGENI	4
BAETIS INSIGNIFI	135
BAETIS TRICAUDAT	228
ATTENELLA MARGAR	24
DRUNELLA FLAVILI	1
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	1
SERRATELLA TIBIA	200
EPEORUS ALBERTAE	16
NIXE SIMPLICIOID	8
RHITHROGENA HAGE	13
TRICORYTHODES MI	8
ALLOPERLA-GROUP	1
ZAPADA CINCTIPES	1
CALINEURIA CALIF	1
CLAASSENI SABULO	1
HESPEROPERLA PAC	1
ISOGENOIDES ELON	42
SKWALA PARALLELA	2
PTERONARCELLA BA	87
PTERONARCYS CALI	13
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	37
CHEUMATOPSYCHE	45
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	294
HYDROPTILA SP.	4
NEOTRICHIA SP.	1
OECETIS SP. A	1
WORMALDIA SP.	15
PSYCHOMYIA FLAVI	27
OPTIOSERVUS SPP.	19
ZAITZEVIA PARVUL	17
MICROPSECTR SP.A	4
MICROTENDIPES SP	5
PHAENOPSECTRA SP	3
POLYPEDILUM SP.A	31
TANYTARSUS SP. B	4
CRICOTOPUS SP. B	3
EUKIEFFERIELLA B	14
EUKIEFFERIELLA E	25
ORTHOCLADIUS B	19
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	14
ABLABESMYIA SP.	1
SIMULIUM SP.	30
HEXATOMA SP.	1

Table 16. Continued

05A-7	
BAETIS HAGENI	1
BAETIS INSIGNIFI	11
BAETIS TRICAUDAT	4
ATTENELLA MARGAR	11
SERRATELLA TIBIA	15
EPEORUS ALBERTAE	4
NIXE SIMPLICIOID	15
RHITHROGENA HAGE	2
TRICORYTHODES MI	8
CLAASSENI SABULO	1
ISOGENOIDES ELON	9
SKWALA PARALLELA	6
PTERONARCELLA BA	1
PTERONARCYS CALI	4
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	24
HYDROPSYCHE OCCI	3
SYMPHITOPS COCKE	112
HYDROPTILA SP.	1
NEOTRICHIA SP.	1
WORMALDIA SP.	3
PSYCHOMYIA FLAVI	1
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	2
MICROPSECTR SP.A	8
MICROTENDIPES SP	1
POLYPEDILUM SP.A	15
STEMPELLINELLA	1
TANYTARSUS SP. B	6
CORYNONEURA SP.	1
EUKIEFFERIELLA B	2
EUKIEFFERIELLA E	14
ORTHOCLADIUS B	5
ORTHOCLADIUS NIG	1
PSECTROCLADIUS B	1
HEXATOMA SP.	2

05B-7	
BAETIS INSIGNIFI	7
BAETIS TRICAUDAT	3
CENTROPTILU SP.A	4
ATTENELLA MARGAR	10
DRUNELLA FLAVILI	1
SERRATELLA TIBIA	8
TIMPANOGA HECUBA	2
EPEORUS ALBERTAE	1
NIXE SIMPLICIOID	23
PARALEPTOPHL BIC	1
TRICORYTHODES MI	13
ALLOPERLA-GROUP	1
CLAASSENI SABULO	2
ISOGENOIDES ELON	7
SKWALA PARALLELA	1
PTERONARCELLA BA	1
PTERONARCYS CALI	1
ZAITZEVIA PARVUL	1
CRYPTOCHIRONOMUS	2
MICROPSECTR SP.A	1
MICROTENDIPES SP	4
PARACLADOPE SP.B	2
POLYPEDILUM SP.A	1
TANYTARSUS SP. B	2
EUKIEFFERIELLA E	3
EUKIEFFERIELLA G	1
ORTHOCLADIUS B	1
ORTHOCLADIUS OBU	2
HEXATOMA SP.	1
PACIFASTICUS SP.	1

Table 16. Continued

05C-7		05D-7	
BAETIS INSIGNIFI	22	BAETIS HAGENI	6
BAETIS TRICAUDAT	12	BAETIS INSIGNIFI	26
CENTROPTILU SP.A	1	BAETIS TRICAUDAT	23
ATTENELLA MARGAR	28	ATTENELLA MARGAR	23
SERRATELLA TIBIA	28	SERRATELLA TIBIA	42
TIMPANOGA HECUBA	1	TIMPANOGA HECUBA	2
EPEORUS ALBERTAE	6	EPEORUS ALBERTAE	6
NIXE SIMPLICIOID	18	NIXE SIMPLICIOID	18
RHITHROGENA HAGE	2	RHITHROGENA HAGE	1
TRICORYTHODES MI	4	PARALEPTOPHL BIC	1
ISOGENOIDES ELON	21	TRICORYTHODES MI	9
SKWALA PARALLELA	3	ALLOPERLA-GROUP	1
PTERONARCELLA BA	2	CLAASSENI SABULO	2
PTERONARCYS CALI	1	HESPEROPERLA PAC	3
ARCTOPSYCHE GRAN	24	ISOGENOIDES ELON	14
CHEUMATOPSYCHE	23	SKWALA PARALLELA	2
HYDROPSYCHE OCCI	3	PTERONARCELLA BA	10
SYMPHITOPS COCKE	162	PTERONARCYS CALI	2
HYDROPTILA SP.	1	BRACHYCENTRUS OC	2
WORMALDIA SP.	6	ARCTOPSYCHE GRAN	26
OPTIOSERVUS SPP.	2	CHEUMATOPSYCHE	31
ZAITZEVIA PARVUL	2	HYDROPSYCHE OCCI	2
MICROPSECTR SP.A	3	SYMPHITOPS COCKE	213
MICROTENDIPES SP	1	HYDROPTILA SP.	2
PHAENOPSECTRA SP	1	WORMALDIA SP.	3
POLYPEDILUM SP.A	6	OPTIOSERVUS SPP.	1
TANYTARSUS SP. B	1	ZAITZEVIA PARVUL	6
EUKIEFFERIELLA A	1	MICROPSECTR SP.A	1
EUKIEFFERIELLA E	5	MICROTENDIPES SP	1
ORTHOCLADIUS B	3	PHAENOPSECTRA SP	2
ORTHOCLADIUS NIG	3	POLYPEDILUM SP.A	11
ORTHOCLADIUS OBU	3	TANYTARSUS SP. B	2
PARAMETRIOCNE SP	1	EUKIEFFERIELLA A	1
CHELIFERA SP.	1	EUKIEFFERIELLA E	18
HEXATOMA SP.	1	HETEROTRISSOCLAD	1
OLIGOCHAETA	1	ORTHOCLADIUS B	3
		ORTHOCLADIUS NIG	1
		ORTHOCLADIUS OBU	2
		ABLABESMYIA SP.	1

Table 16. Continued

06A-7	
BAETIS INSIGNIFI	22
BAETIS TRICAUDAT	2
CENTROPTILU SP.A	2
ATTENELLA MARGAR	30
SERRATELLA TIBIA	3
TIMPANOGA HECUBA	1
NIXE SIMPLICIOID	32
TRICORYTHODES MI	37
CLAASSENI SABULO	1
ISOGENOIDES ELON	18
SKWALA PARALLELA	3
PTERONARCELLA BA	1
ARCTOPSYCHE GRAN	3
CHEUMATOPSYCHE	123
SYMPHITOPS COCKE	95
HYDROPTILA SP.	19
NEOTRICHIA SP.	1
OECETIS SP. A	1
PSYCHOMYIA FLAVI	5
OPTIOSERVUS SPP.	3
ZAITZEVIA PARVUL	11
ATHERIX VARIEGAT	1
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.A	6
MICROTENDIPES SP	12
PHAENOPSECTRA SP	1
POLYPEDILUM SP.A	13
TANYTARSUS SP. B	2
PAGASTIA SP.	1
EUKIEFFERIELLA E	3
ORTHOCLADIUS B	14
ORTHOCLADIUS F	1
ORTHOCLADIUS OBU	5
CHELIFERA SP.	3
ANTOCHA SP.	1
HEXATOMA SP.	1
OLIGOCHAETA	4

06B-7	
BAETIS INSIGNIFI	60
BAETIS TRICAUDAT	2
CENTROPTILU SP.A	4
ATTENELLA MARGAR	50
EPHEMERELLA INFR	1
SERRATELLA TIBIA	2
TIMPANOGA HECUBA	5
EPEORUS ALBERTAE	1
NIXE SIMPLICIOID	34
TRICORYTHODES MI	57
ISOGENOIDES ELON	18
SKWALA PARALLELA	4
CHEUMATOPSYCHE	71
SYMPHITOPS COCKE	70
OECETIS SP. A	1
DICOSMOECUS SP.	1
PSYCHOMYIA FLAVI	14
OREODYTES SCITIL	1
OPTIOSERVUS SPP.	3
ZAITZEVIA PARVUL	12
MICROPSECTR SP.A	5
MICROTENDIPES SP	21
PHAENOPSECTRA SP	1
POLYPEDILUM SP.A	12
TANYTARSUS SP. B	3
TANYTARSUS SP. C	1
PAGASTIA SP.	1
EUKIEFFERIELLA E	8
EUKIEFFERIELLA G	1
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	12
ABLABESMYIA SP.	1
CHELIFERA SP.	2
OLIGOCHAETA	7

Table 16. Continued

06C-7	
BAETIS HAGENI	1
BAETIS INSIGNIFI	61
BAETIS TRICAUDAT	2
CENTROPTILU SP.A	17
ATTENELLA MARGAR	59
SERRATELLA TIBIA	3
TIMPANOGA HECUBA	19
EPEORUS ALBERTAE	2
NIXE CRIDDLEI	1
NIXE SIMPLICIOID	53
PARALEPTOPHL BIC	11
TRICORYTHODES MI	90
ISOGENOIDES ELON	13
SKWALA PARALLELA	3
PTERONARCYS CALI	1
OPHIOGOMPHUS SP.	1
SIGARA SP.	8
RHAGOVELIA SP.	1
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	5
CHEUMATOPSYCHE	139
HYDROPSYCHE OCCI	2
SYMPHITOPS COCKE	138
HYDROPTILA SP.	23
NEOTRICHIA SP.	1
WORMALDIA SP.	1
PSYCHOMYIA FLAVI	11
OREODYTES SCITIL	8
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	19
MICROPSECTR SP.A	6
MICROTENDIPES SP	7
PHAENOPSECTRA SP	6
POLYPEDILUM SP.A	19
TANYTARSUS SP. B	3
TANYTARSUS SP. C	1
CORYNONEURA SP.	1
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	12
EUKIEFFERIELLA G	1
ORTHOCLADIUS B	16
ORTHOCLADIUS OBU	7
ABLABESMYIA SP.	1
CHELIFERA SP.	3
OLIGOCHAETA	2

06D-7	
BAETIS INSIGNIFI	78
BAETIS TRICAUDAT	8
CENTROPTILU SP.A	14
ATTENELLA MARGAR	61
SERRATELLA TIBIA	7
TIMPANOGA HECUBA	23
NIXE CRIDDLEI	3
NIXE SIMPLICIOID	40
RHITHROGENA HAGE	1
PARALEPTOPHL BIC	2
TRICORYTHODES MI	99
HESPEROPERLA PAC	1
ISOGENOIDES ELON	10
PTERONARCELLA BA	1
PTERONARCYS CALI	2
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	10
CHEUMATOPSYCHE	77
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	134
HYDROPTILA SP.	16
WORMALDIA SP.	1
PSYCHOMYIA FLAVI	4
OREODYTES SCITIL	3
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	9
MICROPSECTR SP.A	5
MICROTENDIPES SP	7
POLYPEDILUM SP.A	17
TANYTARSUS SP. B	2
TANYTARSUS SP. C	3
PAGASTIA SP.	1
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	10
EUKIEFFERIELLA G	1
ORTHOCLADIUS B	11
ORTHOCLADIUS F	1
ORTHOCLADIUS OBU	11
ABLABESMYIA SP.	2
CHELIFERA SP.	2
HEXATOMA SP.	1
OLIGOCHAETA	2

08A-7Q	
BAETIS HAGENI	4
BAETIS INSIGNIFI	84
BAETIS TRICAUDAT	12
CENTROPTILU SP.A	20
ATTENELLA MARGAR	60
TIMPANOGA HECUBA	4
EPEORUS ALBERTAE	4
NIXE SIMPLICIOID	36
PARALEPTOPHL BIC	16
TRICORYTHODES MI	476
MALENKA SP.	4
ISOGENOIDES ELON	4
SKWALA PARALLELA	8
PTERONARCELLA BA	4
PTERONARCYS CALI	12
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	72
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	136
HYDROPTILA SP.	8
NEOTRICHIA SP.	4
PSYCHOMYIA FLAVI	8
ZAITZEVIA PARVUL	4
CHIRONOMUS SP.	8
MICROPSECTR SP.A	8
MICROTENDIPES SP	40
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	136
POLYPEDILUM SP.C	8
TANYTARSUS SP. B	32
PAGASTIA SP.	4
CRICOTOPUS SP. B	16
EUKIEFFERIELLA E	8
EUKIEFFERIELLA G	4
ORTHOCLADIUS B	32
ANTOCHA SP.	8
OLIGOCHAETA	172

08B-7Q	
BAETIS FLAVISTRI	4
BAETIS INSIGNIFI	28
BAETIS TRICAUDAT	4
ATTENELLA MARGAR	52
TIMPANOGA HECUBA	4
NIXE SIMPLICIOID	32
PARALEPTOPHL BIC	8
TRICORYTHODES MI	260
ISOGENOIDES ELON	8
SKWALA PARALLELA	4
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	36
HYDROPSYCHE OCCI	12
SYMPHITOPS COCKE	64
HYDROPTILA SP.	12
OECETIS SP. A	12
WORMALDIA SP.	4
PSYCHOMYIA FLAVI	4
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	4
MICROPSECTR SP.A	4
MICROTENDIPES SP	36
POLYPEDILUM SP.A	132
TANYTARSUS SP. B	16
PAGASTIA SP.	12
CARDIOCLADI SP.C	8
EUKIEFFERIELLA E	12
ORTHOCLADIUS B	24
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	8
ABLABESMYIA SP.	4
OLIGOCHAETA	92

Table 16. Continued

08C-7Q	
BAETIS HAGENI	4
BAETIS INSIGNIFI	80
BAETIS TRICAUDAT	20
CENTROPTILU SP.A	16
n.k. CENTROPTILU ~~ANTROPTILUM~~ SP.B	4
ATTENELLA MARGAR	40
DRUNELLA GRANDIS	4
SERRATELLA TIBIA	8
TIMPANOGA HECUBA	12
EPEORUS ALBERTAE	4
NIXE CRIDDLEI	8
NIXE SIMPLICIOID	12
PARALEPTOPHL BIC	4
TRICORYTHODES MI	180
ISOGENOIDES ELON	8
ISOPERLA QUINQUE	4
PTERONARCELLA BA	4
PTERONARCYS CALI	12
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	68
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	148
HYDROPTILA SP.	8
OECETIS SP. A	4
PSYCHOMYIA FLAVI	8
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	4
MICROPSECTR SP.A	4
MICROTENDIPES SP	12
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	80
POLYPEDILUM SP.C	4
TANYTARSUS SP. B	20
TANYTARSUS SP. C	4
CARDIOCLADI SP.C	12
CRICOTOPUS SP. B	8
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	16
ORTHOCLADIUS B	12
ABLA[illegible]SMYIA SP.	4
OLIGOCHAETA	112

08D-7Q	
BAETIS INSIGNIFI	100
BAETIS TRICAUDAT	12
CENTROPTILU SP.A	20
ATTENELLA MARGAR	44
EPHEMERELLA INFR	4
SERRATELLA TIBIA	4
TIMPANOGA HECUBA	4
NIXE CRIDDLEI	12
NIXE SIMPLICIOID	36
TRICORYTHODES MI	304
ISOGENOIDES ELON	12
ISOPERLA QUINQUE	4
PTERONARCELLA BA	4
PTERONARCYS CALI	4
ARCTOPSYCHE GRAN	16
CHEUMATOPSYCHE	56
HYDROPSYCHE OCCI	12
SYMPHITOPS COCKE	160
HYDROPTILA SP.	4
NEOTRICHIA SP.	4
PSYCHOMYIA FLAVI	12
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	8
MICROTENDIPES SP	28
PHAENOPSECTRA SP	8
POLYPEDILUM SP.A	132
POLYPEDILUM SP.C	12
TANYTARSUS SP. B	44
TANYTARSUS SP. C	4
MONODIAMESA SP.	4
CARDIOCLADI SP.C	4
CRICOTOPUS SP. B	8
EUKIEFFERIELLA E	24
EUKIEFFERIELLA H	4
ORTHOCLADIUS B	64
ORTHOCLADIUS OBU	20
ANTOCHA SP.	4
OLIGOCHAETA	316
OLIGOCHAETA LUMB	8

09A-7Q	
BAETIS HAGENI	4
BAETIS INSIGNIFI	128
BAETIS TRICAUDAT	4
ATTENELLA MARGAR	52
SERRATELLA TIBIA	4
TIMPANOGA HECUBA	4
EPEORUS ALBERTAE	8
NIXE CRIDDLEI	4
NIXE SIMPLICIOID	44
TRICORYTHODES MI	60
ISOGENOIDES ELON	20
ISOPERLA QUINQUE	4
PTERONARCYS CALI	4
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	36
HYDROPSYCHE OCCI	8
SYMPHITOPS COCKE	44
HYDROPTILA SP.	32
PSYCHOMYIA FLAVI	8
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	4
MICROPSECTR SP.A	12
MICROPSECTR SP.C	4
MICROTENDIPES SP	12
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	40
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	16
ORTHOCLADIUS B	36
ORTHOCLADIUS OBU	20
ANTOCHA SP.	4
HEXATOMA SP.	16

09B-7Q	
BAETIS HAGENI	12
BAETIS INSIGNIFI	236
BAETIS TRICAUDAT	64
ATTENELLA MARGAR	40
EPHEMERELLA INFR	4
SERRATELLA TIBIA	40
TIMPANOGA HECUBA	8
EPEORUS ALBERTAE	16
NIXE CRIDDLEI	4
NIXE SIMPLICIOID	28
RHITHROGENA HAGE	4
PARALEPTOPHL BIC	4
PARALEPTOPH DEB	12
TRICORYTHODES MI	60
ISOGENOIDES ELON	24
ARCTOPSYCHE GRAN	24
CHEUMATOPSYCHE	140
HYDROPSYCHE OCCI	24
SYMPHITOPS COCKE	152
HYDROPTILA SP.	36
OREODYTES SCITIL	8
ZAITZEVIA PARVUL	12
MICROPSECTR SP.A	4
MICROTENDIPES SP	8
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	100
POLYPEDILUM SP.C	4
TANYTARSUS SP. B	8
CRICOTOPUS SP. B	4
EUKIEFFERIELLA E	28
ORTHOCLADIUS B	32
ORTHOCLADIUS OBU	20
ABLABESMYIA SP.	4
CHELIFERA SP.	4
HEXATOMA SP.	4
OLIGOCHAETA	4

Table 16. Continued

09C-7Q	
BAETIS INSIGNIFI	124
BAETIS TRICAUDAT	4
CENTROPTILU SP.A	12
ATTENELLA MARGAR	36
SERRATELLA TIBIA	12
TIMPANOGA HECUBA	4
EPEORUS ALBERTAE	4
NIXE CRIDDLEI	4
NIXE SIMPLICIOID	40
PARALEPTOPHL BIC	4
PARALEPTOPHL DEB	~~8~~ 16 M.K.
TRICORYTHODES MI	64
ISOGENOIDES ELON	16
SKWALA PARALLELA	4
PTERONARCYS CALI	4
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	32
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	44
HYDROPTILA SP.	80
PSYCHOMYIA FLAVI	4
OREODYTES SCITIL	4
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	4
CRYPTOCHIRONOMUS	4
MICROPSECTR SP.A	4
MICROTENDIPES SP	24
PHAENOPSECTRA SP	8
POLYPEDILUM SP.A	44
TANYTARSUS SP. B	8
EUKIEFFERIELLA E	4
ORTHOCLADIUS B	16
ORTHOCLADIUS OBU	12

09D-7Q	
BAETIS INSIGNIFI	264
BAETIS TRICAUDAT	40
CENTROPTILU SP.A	4
ATTENELLA MARGAR	68
SERRATELLA TIBIA	36
EPEORUS ALBERTAE	4
NIXE SIMPLICIOID	36
TRICORYTHODES MI	56
ISOGENOIDES ELON	4
SKWALA PARALLELA	8
PTERONARCELLA BA	12
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	28
CHEUMATOPSYCHE	228
HYDROPSYCHE OCCI	108
SYMPHITOPS COCKE	172
HYDROPTILA SP.	88
OECETIS SP. A	8
PSYCHOMYIA FLAVI	20
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	16
CRYPTOCHIRONOMUS	4
MICROPSECTR SP.A	8
MICROTENDIPES SP	12
PARATANYTARSUS	4
PHAENOPSECTRA SP	8
POLYPEDILUM SP.A	68
POLYPEDILUM SP.C	8
TANYTARSUS SP. B	4
PAGASTIA SP.	8
EUKIEFFERIELLA B	8
EUKIEFFERIELLA E	28
EUKIEFFERIELLA G	4
ORTHOCLADIUS B	32
ORTHOCLADIUS OBU	36
SIMULIUM SP.	4
ANTOCHA SP.	4

10A-7	
BAETIS INSIGNIFI	51
BAETIS TRICAUDAT	16
ATTENELLA MARGAR	44
DRUNELLA FLAVILI	1
EPHEMERELLA INFR	9
SERRATELLA TIBIA	12
EPEORUS ALBERTAE	2
NIXE SIMPLICIOID	16
RHITHROGENA HAGE	16
TRICORYTHODES MI	1
CLAASSENI SABULO	1
ISOGENOIDES ELON	5
SKWALA PARALLELA	6
PTERONARCELLA BA	4
PROTOPTILA SP.	1
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	10
HYDROPSYCHE OCCI	2
SYMPHITOPS COCKE	16
HYDROPTILA SP.	1
OPTIOSERVUS SPP.	23
ZAITZEVIA PARVUL	6
MICROPSECTR SP.A	6
MICROTENDIPES SP	1
PHAENOPSECTRA SP	1
POLYPEDILUM SP.A	8
TANYTARSUS SP. B	8
CARDIOCLADI SP.B	1
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	3
ORTHOCLADIUS B	4
ORTHOCLADIUS C	1
ORTHOCLADIUS NIG	3
ORTHOCLADIUS OBU	8
SYNORTHOCLADIUS	1
CHELIFERA SP.	2
SIMULIUM SP.	12
HEXATOMA SP.	1
PISIDIUM SP.	1
OLIGOCHAETA LUMB	8

10B-7	
AMETROPUS SP.	1
BAETIS INSIGNIFI	61
BAETIS TRICAUDAT	35
ATTENELLA MARGAR	36
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	11
SERRATELLA TIBIA	16
NIXE SIMPLICIOID	44
RHITHROGENA HAGE	13
TRICORYTHODES MI	1
CLAASSENI SABULO	1
ISOGENOIDES ELON	3
SKWALA PARALLELA	2
PTERONARCELLA BA	5
GLOSSOSOMA SP.	3
ARCTOPSYCHE GRAN	3
CHEUMATOPSYCHE	6
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	13
OPTIOSERVUS SPP.	42
ZAITZEVIA PARVUL	20
MICROPSECTR SP.A	2
POLYPEDILUM SP.A	4
TANYTARSUS SP. B	1
EUKIEFFERIELLA E	4
ORTHOCLADIUS B	1
ORTHOCLADIUS NIG	1
ORTHOCLADIUS OBU	3
CHELIFERA SP.	1
OLIGOCHAETA LUMB	6
HIRUDINEA	2

10C-7	
BAETIS INSIGNIFI	28
BAETIS TRICAUDAT	22
ATTENELLA MARGAR	47
EPHEMERELLA INFR	11
SERRATELLA TIBIA	13
EPEORUS ALBERTAE	2
NIXE SIMPLICIOID	23
RHITHROGENA HAGE	34
TRICORYTHODES MI	3
ISOGENOIDES ELON	12
SKWALA PARALLELA	1
PTERONARCELLA BA	6
GLOSSOSOMA SP.	5
ARCTOPSYCHE GRAN	3
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	6
HYDROPTILA SP.	2
OPTIOSERVUS SPP.	35
ZAITZEVIA PARVUL	13
CLADOTANYTA SP.A	4
MICROPSECTR SP.A	2
MICROTENDIPES SP	1
POLYPEDILUM SP.A	2
TANYTARSUS SP. B	6
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	2
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	2
THIENEMANIELL SP	1
ABLABESMYIA SP.	1
CHELIFERA SP.	1
SIMULIUM SP.	29
PROTANYDERUS SP.	1
HEXATOMA SP.	1
OLIGOCHAETA	5
OLIGOCHAETA LUMB	3

10D-7	
BAETIS INSIGNIFI	127
BAETIS TRICAUDAT	13
ATTENELLA MARGAR	97
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	25
SERRATELLA TIBIA	24
TIMPANOGA HECUBA	1
EPEORUS ALBERTAE	1
NIXE SIMPLICIOID	78
RHITHROGENA HAGE	17
PARALEPTOPHL BIC	3
TRICORYTHODES MI	15
CLAASSENI SABULO	2
ISOGENOIDES ELON	10
SKWALA PARALLELA	4
PTERONARCELLA BA	8
BRACHYCENTRUS OC	2
GLOSSOSOMA SP.	1
ARCTOPSYCHE GRAN	3
CHEUMATOPSYCHE	22
HYDROPSYCHE SP.A	1
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	21
HYDROPTILA SP.	10
NEOTRICHIA SP.	1
OPTIOSERVUS SPP.	46
ZAITZEVIA PARVUL	33
CLADOTANYTA SP.A	1
MICROPSECTR SP.A	16
MICROTENDIPES SP	1
PHAENOPSECTRA SP	2
POLYPEDILUM SP.A	7
TANYTARSUS SP. B	6
TANYTARSUS SP. C	1
CRICOTOPUS SP. B	3
EUKIEFFERIELLA B	3
EUKIEFFERIELLA E	6
ORTHOCLADIUS B	1
ORTHOCLADIUS OBU	4
CHELIFERA SP.	5
SIMULIUM SP.	3
HEXATOMA SP.	1
OLIGOCHAETA	5
OLIGOCHAETA LUMB	4

Table 16. Continued

11A-7	
BAETIS HAGENI	1
BAETIS INSIGNIFI	225
BAETIS TRICAUDAT	63
ATTENELLA MARGAR	50
EPHEMERELLA INFR	15
SERRATELLA TIBIA	30
EPEORUS ALBERTAE	2
NIXE SIMPLICIOID	193
RHITHROGENA HAGE	16
PARALEPTOPHL BIC	1
PARALEPTOPHL DEB	1
CLAASSENI SABULO	1
ISOGENOIDES ELON	25
SKWALA PARALLELA	1
PTERONARCELLA BA	6
PTERONARCYS CALI	1
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	14
HYDROPSYCHE OCCI	188
SYMPHITOPS COCKE	20
HYDROPTILA SP.	38
OECETIS SP. A	1
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	3
ATHERIX VARIEGAT	3
MICROPSECTR SP.A	18
MICROTENDIPES SP	3
POLYPEDILUM SP.A	35
POLYPEDILUM SP.C	2
CRICOTOPUS SP. B	11
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	13
ORTHOCLADIUS B	19
ORTHOCLADIUS OBU	12
SYNORTHOCLADIUS	2
CHELIFERA SP.	7
SIMULIUM SP.	15
PROTANYDERUS SP.	1
HEXATOMA SP.	5

11B-7	
BAETIS INSIGNIFI	149
BAETIS TRICAUDAT	67
ATTENELLA MARGAR	28
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	9
SERRATELLA TIBIA	17
EPEORUS ALBERTAE	1
NIXE SIMPLICIOID	72
RHITHROGENA HAGE	64
TRICORYTHODES MI	9
ISOGENOIDES ELON	12
SKWALA PARALLELA	2
PTERONARCELLA BA	7
PTERONARCYS CALI	1
ARCTOPSYCHE GRAN	7
CHEUMATOPSYCHE	10
HYDROPSYCHE OCCI	125
SYMPHITOPS COCKE	11
HYDROPTILA SP.	22
NEOTRICHIA SP.	1
OREODYTES SCITIL	3
OPTIOSERVUS SPP.	1
ZAITZEVIA PARVUL	6
ATHERIX VARIEGAT	1
MICROPSECTR SP.A	6
MICROPSECTR SP.C	1
MICROTENDIPES SP	5
PARATANYTARSUS	1
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	14
POLYPEDILUM SP.C	3
CRICOTOPUS SP. B	3
EUKIEFFERIELLA B	5
EUKIEFFERIELLA E	8
ORTHOCLADIUS B	5
ORTHOCLADIUS NIG	1
ORTHOCLADIUS OBU	11
CHELIFERA SP.	8
SIMULIUM SP.	59
HEXATOMA SP.	1

Table 16. Continued

11C-7	
BAETIS INSIGNIFI	126
BAETIS TRICAUDAT	34
CENTROPTILU SP.A	4
ATTENELLA MARGAR	24
EPHEMERELLA INFR	13
SERRATELLA TIBIA	7
EPEORUS ALBERTAE	1
NIXE CRIDDLEI	1
NIXE SIMPLICIOID	49
RHITHROGENA HAGE	44
TRICORYTHODES MI	15
CLAASSENI SABULO	2
ISOGENOIDES ELON	8
PTERONARCELLA BA	1
PTERONARCYS CALI	2
ARCTOPSYCHE GRAN	6
CHEUMATOPSYCHE	6
HYDROPSYCHE OCCI	91
SYMPHITOPS COCKE	17
HYDROPTILA SP.	15
OPTIOSERVUS SPP.	5
ZAITZEVIA PARVUL	4
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.A	9
MICROPSECTR SP.C	3
MICROTENDIPES SP	6
PHAENOPSECTRA SP	1
POLYPEDILUM SP.A	8
CARDIOCLADI SP.C	2
CRICOTOPUS SP. B	10
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	2
ORTHOCLADIUS B	3
ORTHOCLADIUS OBU	5
CHELIFERA SP.	2
SIMULIUM SP.	53
OLIGOCHAETA	1

11D-7	
BAETIS INSIGNIFI	131
BAETIS TRICAUDAT	44
CENTROPTILU SP.A	3
ATTENELLA MARGAR	30
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	9
SERRATELLA TIBIA	5
NIXE CRIDDLEI	1
NIXE SIMPLICIOID	45
RHITHROGENA HAGE	63
PARALEPTOPHL DEB	2
TRICORYTHODES MI	8
CLAASSENI SABULO	2
ISOGENOIDES ELON	11
SKWALA PARALLELA	1
PTERONARCELLA BA	6
ARCTOPSYCHE GRAN	9
CHEUMATOPSYCHE	7
HYDROPSYCHE OCCI	65
SYMPHITOPS COCKE	2
HYDROPTILA SP.	8
OREODYTES SCITIL	1
OPTIOSERVUS SPP.	6
ZAITZEVIA PARVUL	3
MICROPSECTR SP.A	2
MICROTENDIPES SP	4
POLYPEDILUM SP.A	12
CARDIOCLADI SP.C	1
CRICOTOPUS SP. B	6
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	6
ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	7
SIMULIUM SP.	40
HEXATOMA SP.	1

13A-7H	
BAETIS INSIGNIFI	92
BAETIS TRICAUDAT	8
CENTROPTILU SP.A	72
ATTENELLA MARGAR	58
EPHEMERELLA INFR	4
SERRATELLA TIBIA	2
NIXE SIMPLICIOID	340
PARALEPTOPHL BIC	8
PARALEPTOPHL DEB	12
TRICORYTHODES MI	48
ISOGENOIDES ELON	6
SKWALA PARALLELA	2
CHEUMATOPSYCHE	2
HYDROPSYCHE OCCI	4
HYDROPTILA SP.	12
OECETIS SP. A	4
OREODYTES SCITIL	8
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	2
ATHERIX VARIEGAT	2
MICROPSECTR SP.A	6
MICROTENDIPES SP	10
PHAENOPSECTRA SP	2
POLYPEDILUM SP.A	10
TANYTARSUS SP. B	4
CARDIOCLADI SP.C	2
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	8
ABLABESMYIA SP.	2
CHELIFERA SP.	2
HEXATOMA SP.	6

13B-7H	
BAETIS INSIGNIFI	58
BAETIS TRICAUDAT	10
CENTROPTILU SP.A	34
ATTENELLA MARGAR	58
DRUNELLA GRANDIS	2
EPHEMERELLA INFR	12
NIXE SIMPLICIOID	214
PARALEPTOPHL BIC	8
PARALEPTOPHL DEB	8
TRICORYTHODES MI	20
ISOGENOIDES ELON	28
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	8
SYMPHITOPS COCKE	10
HYDROPTILA SP.	24
OECETIS SP. A	4
OREODYTES SCITIL	4
MICROPSECTR SP.A	6
POLYPEDILUM SP.A	6
POLYPEDILUM SP.C	6
EUKIEFFERIELLA B	2
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	4
ABLABESMYIA SP.	2
HEXATOMA SP.	2
OLIGOCHAETA	2

Table 16. Continued

13C-7H	
BAETIS INSIGNIFI	62
BAETIS TRICAUDAT	2
CENTROPTILU SP.A	50
ATTENELLA MARGAR	106
EPHEMERELLA INFR	18
NIXE SIMPLICIOID	294
PARALEPTOPHL BIC	18
PARALEPTOPHL DEB	2
TRICORYTHODES MI	92
ISOGENOIDES ELON	20
ISOPERLA QUINQUE	2
ARCTOPSYCHE GRAN	14
CHEUMATOPSYCHE	2
HYDROPSYCHE OCCI	8
HYDROPTILA SP.	46
LEPIDOSTOMA SP.A	2
OECETIS SP. A	4
OREODYTES SCITIL	6
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	4
MICROPSECTR SP.A	4
MICROTENDIPES SP	10
PARACLADOPE SP.B	2
PHAENOPSECTRA SP	12
POLYPEDILUM SP.A	14
POLYPEDILUM SP.C	4
TANYTARSUS SP. B	4
EUKIEFFERIELLA E	2
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	8
HEXATOMA SP.	8
OLIGOCHAETA	26

13D-7H	
BAETIS INSIGNIFI	52
BAETIS TRICAUDAT	2
CENTROPTILU SP.A	36
ATTENELLA MARGAR	58
EPHEMERELLA INFR	18
NIXE SIMPLICIOID	~~80~~ 280 MK.
PARALEPTOPHL BIC	4
PARALEPTOPHL DEB	10
TRICORYTHODES MI	52
CLAASSENI SABULO	4
ISOGENOIDES ELON	24
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	2
HYDROPSYCHE OCCI	2
SYMPHITOPS COCKE	2
HYDROPTILA SP.	36
OECETIS SP. A	6
OPTIOSERVUS SPP.	2
ATHERIX VARIEGAT	2
MICROPSECTR SP.A	6
MICROPSECTR SP.C	2
MICROTENDIPES SP	6
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	2
POLYPEDILUM SP.C	2
EUKIEFFERIELLA B	2
ORTHOCLADIUS OBU	6
ABLABESMYIA SP.	2
OLIGOCHAETA	10

Table 16. Continued

14A-7Q	
BAETIS INSIGNIFI	204
BAETIS TRICAUDAT	16
ATTENELLA MARGAR	24
TIMPANOGA HECUBA	8
NIXE SIMPLICIOID	140
PARALEPTOPHL DEB	4
TRICORYTHODES MI	44
ISOGENOIDES ELON	4
HYDROPSYCHE OCCI	8
HYDROPTILA SP.	72
OECETIS SP. A	8
ZAITZEVIA PARVUL	4
CRYPTOCHIRONOMUS	8
MICROPSECTR SP.A	4
MICROTENDIPES SP	224
PHAENOPSECTRA SP	24
POLYPEDILUM SP.A	48
TANYTARSUS SP. B	4
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	4
ABLABESMYIA SP.	4
OLIGOCHAETA	28

14B-7Q	
BAETIS INSIGNIFI	76
BAETIS TRICAUDAT	4
ATTENELLA MARGAR	24
EPHEMERELLA INFR	8
NIXE SIMPLICIOID	80
TRICORYTHODES MI	40
ISOGENOIDES ELON	4
CHEUMATOPSYCHE	8
HYDROPSYCHE OCCI	8
HYDROPTILA SP.	100
OPTIOSERVUS SPP.	4
CRYPTOCHIRONOMUS	4
DICROTENDIP SP.C	4
MICROTENDIPES SP	128
POLYPEDILUM SP.A	12
ORTHOCLADIUS OBU	12
SIMULIUM SP.	4
HEXATOMA SP.	8
OLIGOCHAETA	32

14C-7Q	
BAETIS INSIGNIFI	164
BAETIS TRICAUDAT	28
CENTROPTILU SP.A	4
ATTENELLA MARGAR	36
NIXE CRIDDLEI	8
NIXE SIMPLICIOID	140
TRICORYTHODES MI	28
ISOGENOIDES ELON	16
BRACHYCENTRUS OC	8
CHEUMATOPSYCHE	24
HYDROPSYCHE OCCI	12
SYMPHITOPS COCKE	4
HYDROPTILA SP.	32
OECETIS SP. A	4
MICROPSECTR SP.A	4
MICROPSECTR SP.C	4
MICROTENDIPES SP	16
POLYPEDILUM SP.A	4
CARDIOCLADI SP.C	4
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	12
SIMULIUM SP.	4
OLIGOCHAETA	12

14D-7Q	
BAETIS HAGENI	4
BAETIS INSIGNIFI	248
BAETIS TRICAUDAT	16
CENTROPTILU SP.A	4
ATTENELLA MARGAR	80
EPHEMERELLA INFR	4
SERRATELLA TIBIA	8
NIXE SIMPLICIOID	160
TRICORYTHODES MI	28
CLAASSENI SABULO	4
ISOGENOIDES ELON	16
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	32
HYDROPSYCHE OCCI	32
SYMPHITOPS COCKE	4
SYMPHITOPS SLOSS	4
HYDROPTILA SP.	116
OECETIS SP. A	4
MICROPSECTR SP.A	12
MICROTENDIPES SP	80
POLYPEDILUM SP.A	16
POLYPEDILUM SP.C	4
CRICOTOPUS SP. B	4
EUKIEFFERIELLA E	12
ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	24
HEXATOMA SP.	4
OLIGOCHAETA	12

Table 16. Continued

15A-7H	
BAETIS INSIGNIFI	156
BAETIS TRICAUDAT	94
ATTENELLA MARGAR	26
EPHEMERELLA INFR	4
SERRATELLA TIBIA	20
NIXE SIMPLICIOID	80
RHITHROGENA HAGE	2
PARALEPTOPHL DEB	2
TRICORYTHODES MI	6
CLAASSENI SABULO	6
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	16
HYDROPSYCHE OCCI	150
SYMPHITOPS COCKE	2
HYDROPTILA SP.	2
OREODYTES SCITIL	4
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	2
MICROPSECTR SP.A	18
MICROTENDIPES SP	12
PHAENOPSECTRA SP	16
POLYPEDILUM SP.A	42
ROBACKIA SP.	2
CRICOTOPUS SP. B	4
EUKIEFFERIELLA E	6
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	14
SYNORTHOCLADIUS	4
ABLABESMYIA SP.	2
SIMULIUM SP.	10

15B-7H	
BAETIS INSIGNIFI	154
BAETIS TRICAUDAT	46
ATTENELLA MARGAR	40
EPHEMERELLA INFR	8
SERRATELLA TIBIA	14
NIXE SIMPLICIOID	80
RHITHROGENA HAGE	4
PARALEPTOPHL BIC	14
PARALEPTOPHL DEB	2
TRICORYTHODES MI	40
CLAASSENI SABULO	8
SKWALA PARALLELA	2
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	28
HYDROPSYCHE OCCI	192
SYMPHITOPS COCKE	12
HYDROPTILA SP.	20
OREODYTES SCITIL	14
OPTIOSERVUS SPP.	12
MICROPSECTR SP.A	12
PARATANYTARSUS	2
PHAENOPSECTRA SP	16
POLYPEDILUM SP.A	44
TANYTARSUS SP. B	2
CRICOTOPUS SP. B	4
EUKIEFFERIELLA B	6
EUKIEFFERIELLA E	34
EUKIEFFERIELLA H	2
ORTHOCLADIUS B	4
ORTHOCLADIUS NIG	8
ORTHOCLADIUS OBU	[illegible]
SYNORTHOCLADIUS	4
SIMULIUM SP.	24
HEXATOMA SP.	2

Table 16. Continued

15C-7H	
BAETIS INSIGNIFI	318
BAETIS TRICAUDAT	46
ATTENELLA MARGAR	54
EPHEMERELLA INFR	10
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	102
RHITHROGENA HAGE	2
TRICORYTHODES MI	24
ISOGENOIDES ELON	2
CHEUMATOPSYCHE	14
HYDROPSYCHE OCCI	96
SYMPHITOPS COCKE	2
HYDROPTILA SP.	12
OECETIS SP. A	4
OREODYTES SCITIL	4
ZAITZEVIA PARVUL	2
MICROPSECTR SP.A	12
MICROTENDIPES SP	10
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	62
ROBACKIA SP.	2
TANYTARSUS SP. B	2
CORYNONEURA SP.	2
EUKIEFFERIELLA E	14
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	32
SYNORTHOCLADIUS	4
ABLABESMYIA SP.	4
SIMULIUM SP.	6
OLIGOCHAETA	4

15D-7H	
BAETIS INSIGNIFI	230
BAETIS TRICAUDAT	54
CENTROPTILU SP.A	14
ATTENELLA MARGAR	52
EPHEMERELLA INFR	2
NIXE SIMPLICIOID	238
PARALEPTOPHL BIC	18
PARALEPTOPHL DEB	4
TRICORYTHODES MI	68
ISOGENOIDES ELON	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	2
HYDROPSYCHE OCCI	34
HYDROPTILA SP.	4
OREODYTES SCITIL	14
OPTIOSERVUS SPP.	2
MICROPSECTR SP.A	2
MICROPSECTR SP.C	2
MICROTENDIPES SP	4
PHAENOPSECTRA SP	34
POLYPEDILUM SP.A	10
POLYPEDILUM SP.C	4
ORTHOCLADIUS OBU	8
SIMULIUM SP.	2
HEXATOMA SP.	2

19A-7	
BAETIS INSIGNIFI	118
BAETIS TRICAUDAT	9
CENTROPTILU SP.A	10
ATTENELLA MARGAR	97
DRUNELLA GRANDIS	3
EPHEMERELLA INFR	1
SERRATELLA TIBIA	3
NIXE CRIDDLEI	5
NIXE SIMPLICIOID	75
PARALEPTOPHL BIC	7
PARALEPTOPHL DEB	2
TRICORYTHODES MI	7
HESPEROPERLA PAC	1
ISOGENOIDES ELON	11
ISOPERLA QUINQUE	1
SKWALA PARALLELA	2
BRACHYCENTRUS OC	1
ARCTOPSYCHE GRAN	6
CHEUMATOPSYCHE	222
HYDROPSYCHE OCCI	89
SYMPHITOPS COCKE	105
HYDROPTILA SP.	59
PSYCHOMYIA FLAVI	53
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	3
ZAITZEVIA PARVUL	3
BRYCHIUS SP.	1
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.A	31
MICROTENDIPES SP	60
POLYPEDILUM SP.A	18
TANYTARSUS SP. A	3
XENOCHIRONOMUS	3
PAGASTIA SP.	2
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	9
ORTHOCLADIUS B	14
ORTHOCLADIUS C	2
ORTHOCLADIUS OBU	3
SYNORTHOCLADIUS	2
ANTOCHA SP.	5
OLIGOCHAETA	1

19B-7	
BAETIS INSIGNIFI	76
BAETIS TRICAUDAT	1
CENTROPTILU SP.A	135
M.K. CENTROPTILU ~~ANTROPTILUM~~ SP.B	41
ATTENELLA MARGAR	63
DRUNELLA GRANDIS	2
EPHEMERELLA INFR	1
SERRATELLA TIBIA	2
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	39
PARALEPTOPHL BIC	2
PARALEPTOPHL DEB	14
TRICORYTHODES MI	37
ISOGENOIDES ELON	10
SKWALA PARALLELA	3
SIGARA SP.	6
GLOSSOSOMA SP.	1
CHEUMATOPSYCHE	190
HYDROPSYCHE OCCI	147
SYMPHITOPS COCKE	58
HYDROPTILA SP.	43
OECETIS SP. A	3
PSYCHOMYIA FLAVI	13
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	3
ZAITZEVIA PARVUL	2
CRYPTOCHIRONOMUS	2
MICROPSECTR SP.A	19
MICROTENDIPES SP	88
POLYPEDILUM SP.A	20
TANYTARSUS SP. A	2
PAGASTIA SP.	1
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	12
ORTHOCLADIUS B	4
ORTHOCLADIUS C	1
ORTHOCLADIUS NIG	3
ORTHOCLADIUS OBU	1
ABLABESMYIA SP.	2
ANTOCHA SP.	1

Table 16. Continued

19C-7	
BAETIS INSIGNIFI	34
BAETIS TRICAUDAT	5
CENTROPTILU SP.A	10
ATTENELLA MARGAR	81
EPHEMERELLA INFR	1
EPEORUS ALBERTAE	1
NIXE CRIDDLEI	3
NIXE SIMPLICIOID	39
PARALEPTOPHL DEB	1
TRICORYTHODES MI	15
ISOGENOIDES ELON	10
SKWALA PARALLELA	1
OPTIOSERVUS SPP.	3
ZAITZEVIA PARVUL	3
CLADOTANYTA SP.A	1
CRYPTOCHIRONOMUS	4
MICROPSECTR SP.A	7
MICROTENDIPES SP	125
POLYPEDILUM SP.A	7
TANYTARSUS SP. A	5
PAGASTIA SP.	1
EUKIEFFERIELLA E	8
ORTHOCLADIUS B	6
ORTHOCLADIUS C	2
ORTHOCLADIUS OBU	4
SYNORTHOCLADIUS	1
ABLABESMYIA SP.	1

19D-7	
BAETIS INSIGNIFI	77
BAETIS TRICAUDAT	3
CENTROPTILU SP.A	14
M.K. CENTROPTILUM ~~ANTROPTILUM~~ SP.B	2
ATTENELLA MARGAR	73
DRUNELLA GRANDIS	1
SERRATELLA TIBIA	7
EPEORUS ALBERTAE	3
NIXE CRIDDLEI	1
NIXE SIMPLICIOID	65
PARALEPTOPHL BIC	3
PARALEPTOPHL DEB	12
PARATEPLOPHLEBIA	1
TRICORYTHODES MI	20
CLAASSENI SABULO	1
ISOGENOIDES ELON	11
SKWALA PARALLELA	1
ARCTOPSYCHE GRAN	3
CHEUMATOPSYCHE	159
HYDROPSYCHE OCCI	59
SYMPHITOPS COCKE	71
HYDROPTILA SP.	102
NEOTRICHIA SP.	1
OECETIS SP. A	3
PSYCHOMYIA FLAVI	33
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	3
ZAITZEVIA PARVUL	2
LENZIELLA SP.	1
MICROPSECTR SP.A	21
MICROTENDIPES SP	80
POLYPEDILUM SP.A	16
PAGASTIA SP.	1
CORYNONEURA SP.	1
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	7
ORTHOCLADIUS B	8
ORTHOCLADIUS NIG	2
ORTHOCLADIUS OBU	3
SYNORTHOCLADIUS	1
ABLABESMYIA SP.	1
ANTOCHA SP.	1

21A-8	
BAETIS HAGENI	3
BAETIS INSIGNIFI	32
BAETIS TRICAUDAT	8
CENTROPTILU SP.A	5
M.K. CENTROPTILU ~~ANTROPTILUM~~ SP.B	4
ATTENELLA MARGAR	111
DRUNELLA GRANDIS	2
EPHEMERELLA INFR	8
SERRATELLA TIBIA	18
TIMPANOGA HECUBA	10
EPEORUS ALBERTAE	17
HEPTAGENIA SOLIT	6
NIXE CRIDDLEI	1
NIXE SIMPLICIOID	13
PARALEPTOPHL BIC	13
PARALEPTOPHL DEB	10
TRICORYTHODES MI	73
CLAASSENI SABULO	1
ISOGENOIDES ELON	7
SKWALA PARALLELA	1
PTERONARCYS CALI	2
BRACHYCENTRUS OC	10
ARCTOPSYCHE GRAN	13
CHEUMATOPSYCHE	142
HYDROPSYCHE OCCI	19
SYMPHITOPS COCKE	35
SYMPHITOPS SLOSS	6
HYDROPTILA SP.	42
NEOTRICHIA SP.	2
CERACLEA SP.	2
OECETIS SP. A	4
PSYCHOMYIA FLAVI	9
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	5
ZAITZEVIA PARVUL	2
CRYPTOCHIRONOMUS	2
MICROPSECTR SP.A	6
MICROTENDIPES SP	96
POLYPEDILUM SP.A	17
POLYP[illegible]ILUM SP.C	1
TANYTARSUS SP. B	5
PAGASTIA SP.	3
EUKIEFFERIELLA E	20
ORTHOCLADIUS B	6
ORTHOCLADIUS OBU	14
SYNORTHOCLADIUS	1
ABLABESMYIA SP.	5
SIMULIUM SP.	1
OLIGOCHAETA LUMB	5
HIRUDINEA	1

21B-8	
BAETIS HAGENI	3
BAETIS INSIGNIFI	27
BAETIS TRICAUDAT	31
~~CENTROPTILU SP.A~~	1
MK. CENTROPTILU ~~ANTROPTILUM~~ SP.B	2
ATTENELLA MARGAR	72
DRUNELLA GRANDIS	2
EPHEMERELLA INFR	4
SERRATELLA TIBIA	38
TIMPANOGA HECUBA	13
EPEORUS ALBERTAE	31
HEPTAGENIA SOLIT	5
NIXE SIMPLICIOID	14
PARALEPTOPHL BIC	2
PARALEPTOPHL DEB	6
TRICORYTHODES MI	14
CLAASSENI SABULO	8
ISOGENOIDES ELON	10
SKWALA PARALLELA	1
RHAGOVELIA SP.	1
BRACHYCENTRUS OC	7
ARCTOPSYCHE GRAN	37
CHEUMATOPSYCHE	205
HYDROPSYCHE OCCI	37
SYMPHITOPS COCKE	66
SYMPHITOPS SLOSS	6
HYDROPTILA SP.	32
CERACLEA SP.	1
OECETIS SP. A	7
PSYCHOMYIA FLAVI	8
OPTIOSERVUS SPP.	7
ZAITZEVIA PARVUL	4
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.A	11
MICROTENDIPES SP	81
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	12
TANYTARSUS SP. B	2
PAGASTIA SP.	4
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	12
ORTHOCLADIUS B	14
ORTHOCLADIUS OBU	3
SYNORTHOCLADIUS	1
ABLABESMYIA SP.	1
OLIGOCHAETA	1
OLIGOCHAETA LUMB	3

Table 16. Continued

21C-8	
BAETIS HAGENI	4
BAETIS INSIGNIFI	10
BAETIS TRICAUDAT	1
CENTROPTILU SP.A	1
M.K. CENTROPTILU ~~ANTROPTILUM~~ SP.B	7
ATTENELLA MARGAR	101
DRUNELLA GRANDIS	1
EPHEMERELLA INFR	2
SERRATELLA TIBIA	13
TIMPANOGA HECUBA	15
EPEORUS ALBERTAE	20
HEPTAGENIA SOLIT	11
NIXE SIMPLICIOID	43
PARALEPTOPHL BIC	15
PARALEPTOPHL DEB	6
TRICORYTHODES MI	47
CLAASSENI SABULO	2
ISOGENOIDES ELON	14
PTERONARCYS CALI	3
BRACHYCENTRUS OC	6
ARCTOPSYCHE GRAN	17
CHEUMATOPSYCHE	119
HYDROPSYCHE OCCI	11
SYMPHITOPS COCKE	53
SYMPHITOPS SLOSS	3
HYDROPTILA SP.	51
OECETIS SP. A	6
DICOSMOECUS SP.	1
PSYCHOMYIA FLAVI	20
OREODYTES SCITIL	1
OPTIOSERVUS SPP.	1
ZAITZEVIA PARVUL	3
MICROPSECTR SP.A	1
MICROTENDIPES SP	125
PHAENOPSECTRA SP	7
POLYPEDILUM SP.A	10
EUKIEFFERIELLA E	8
ORTHOCLADIUS B	6
ORTHOCLADIUS OBU	1
SYNORTHOCLADIUS	3
OLIGOCHAETA	4
OLIGOCHAETA LUMB	3

21D-8	
BAETIS INSIGNIFI	10
BAETIS TRICAUDAT	4
CENTROPTILU SP.A	1
CENTROPTILU ~~ANTROPTILUM~~ SP.B	8
ATTENELLA MARGAR	83
DRUNELLA GRANDIS	2
EPHEMERELLA INFR	1
SERRATELLA TIBIA	14
TIMPANOGA HECUBA	6
EPEORUS ALBERTAE	15
HEPTAGENIA SOLIT	8
NIXE SIMPLICIOID	32
PARALEPTOPHL BIC	15
PARALEPTOPHL DEB	7
TRICORYTHODES MI	30
ISOGENOIDES ELON	18
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	13
CHEUMATOPSYCHE	85
HYDROPSYCHE OCCI	10
SYMPHITOPS COCKE	55
SYMPHITOPS SLOSS	5
HYDROPTILA SP.	49
NEOTRICHIA SP.	2
CERACLEA SP.	2
OECETIS SP. A	5
PSYCHOMYIA FLAVI	22
OPTIOSERVUS SPP.	3
CRYPTOCHIRONOMUS	2
MICROPSECTR SP.A	2
MICROTENDIPES SP	89
PHAENOPSECTRA SP	7
POLYPEDILUM SP.A	12
TANYTARSUS SP. B	2
PAGASTIA SP.	1
EUKIEFFERIELLA E	10
ORTHOCLADIUS B	9
ORTHOCLADIUS OBU	2
PSECTROCLADIUS B	2
OLIGOCHAETA	1
OLIGOCHAETA LUMB	4

23-1/8	
NIXE CRIDDLEI	1
NIXE SIMPLICIOID	1
PARALEPTOPHL BIC	1
TRICORYTHODES MI	1
OPHIOGOMPHUS SP.	1
CHEUMATOPSYCHE	1
MICROTENDIPES SP	6
XENOCHIRONOMUS	1
HYALELLA AZTECA	11
GYRAULUS SP.	14
LYMNAEA SP.	3
PHYSA SP.	25
OLIGOCHAETA LUMB	1

23-2/8	
ATTENELLA MARGAR	3
NIXE CRIDDLEI	1
NIXE SIMPLICIOID	5
STENONEMA SP.	3
PARALEPTOPHL BIC	2
PARALEPTOPHL DEB	4
TRICORYTHODES MI	1
OPHIOGOMPHUS SP.	4
DICOSMOECUS SP.	1
DUBIRAPHIA SP.	2
MICROTENDIPES SP	17
PARACHIRONOMUS	1
HYALELLA AZTECA	5
GYRAULUS SP.	7
LYMNAEA SP.	2
PHYSA SP.	14
OLIGOCHAETA LUMB	1
DINA SP.	1

23-3/8	
BAETIS TRICAUDAT	1
CENTROPTILUM SP.	1
CAENIS SIMULANS	1
ATTENELLA MARGAR	7
HEXAGENIA LIMBAT	1
NIXE SIMPLICIOID	15
STENONEMA SP.	5
PARALEPTOPHL BIC	9
PARALEPTOPHL DEB	1
TRICORYTHODES MI	1
AESHNA SP.	1
DUBIRAPHIA SP.	3
DICROTENDIP SP.B	2
MICROTENDIPES SP	17
PARACHIRONOMUS	4
POLYPEDILUM SP.A	1
ORTHOCLADIUS B	2
ABLABESMYIA SP.	4
HYALELLA AZTECA	13
GYRAULUS SP.	10
LYMNAEA SP.	2
PHYSA SP.	23
OLIGOCHAETA	1
DINA SP.	2

23-4/8	
ATTENELLA MARGAR	1
NIXE SIMPLICIOID	4
STENONEMA SP.	2
PARALEPTOPHL BIC	1
PARALEPTOPHL DEB	3
AESHNA SP.	1
CHEUMATOPSYCHE	1
HYDROPTILA SP.	1
LEPIDOSTOMA SP.A	1
CERACLEA SP.	1
DICOSMOECUS SP.	1
PARARGYRACTIS SP	1
OREODYTES SCITIL	1
DUBIRAPHIA SP.	4
PALPOMY-GP SP. B	1
MICROTENDIPES SP	30
PAGASTIA SP.	4
HYALELLA AZTECA	13
GYRAULUS SP.	16
PHYSA SP.	45
OLIGOCHAETA LUMB	3
DINA SP.	1

24-1/8

BAETIS INSIGNIFI	1
ATTENELLA MARGAR	7
TIMPANOGA HECUBA	1
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	8
STENONEMA SP.	3
PARALEPTOPHL BIC	2
TRICORYTHODES MI	4
PTERONARCYS CALI	1
CHEUMATOPSYCHE	38
SYMPHITOPS COCKE	12
HYDROPTILA SP.	5
OREODYTES SCITIL	1
ZAITZEVIA PARVUL	3
CHIRONOMUS SP.	1
MICROPSECTR SP.A	2
MICROTENDIPES SP	83
POLYPEDILUM SP.A	5
EUKIEFFERIELLA E	1
ORTHOCLADIUS B	5
ORTHOCLADIUS OBU	17
ABLABESMYIA SP.	1
SIMULIUM SP.	1

24-2/8

CENTROPTILUM SP.	1
ATTENELLA MARGAR	8
HEPTAGENIA SOLIT	1
NIXE SIMPLICIOID	31
STENONEMA SP.	1
PARALEPTOPHL BIC	17
PARALEPTOPHL DEB	2
TRICORYTHODES MI	15
CHEUMATOPSYCHE	21
SYMPHITOPS COCKE	2
HYDROPTILA SP.	1
OREODYTES SCITIL	5
ZAITZEVIA PARVUL	5
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.A	5
MICROTENDIPES SP	117
PHAENOPSECTRA SP	1
POLYPEDILUM SP.A	2
SYMPOTTHASTIA SP	1
EUKIEFFERIELLA E	1
ORTHOCLADIUS B	14
ORTHOCLADIUS OBU	17
SYNORTHOCLADIUS	1
PROCLADIUS SP. A	1

24-3/8

CENTROPTILUM SP.	1
ATTENELLA MARGAR	4
NIXE SIMPLICIOID	12
STENONEMA SP.	4
TRICORYTHODES MI	9
ISOGENOIDES ELON	1
ARCTOPSYCHE GRAN	1
CHEUMATOPSYCHE	26
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	19
HYDROPTILA SP.	1
OREODYTES SCITIL	1
ZAITZEVIA PARVUL	3
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.A	1
MICROTENDIPES SP	51
POLYPEDILUM SP.A	1
ORTHOCLADIUS B	7
ORTHOCLADIUS OBU	4
HYALELLA AZTECA	1
OLIGOCHAETA LUMB	1

24-4/8

BAETIS INSIGNIFI	2
BAETIS TRICAUDAT	2
CENTROPTILUM SP.	1
ATTENELLA MARGAR	6
EPEORUS ALBERTAE	1
HEPTAGENIA SOLIT	2
NIXE SIMPLICIOID	13
STENONEMA SP.	5
TRICORYTHODES MI	7
OPHIOGOMPHUS SP.	1
CHEUMATOPSYCHE	51
SYMPHITOPS COCKE	16
HYDROPTILA SP.	5
MICROPSECTR SP.A	2
MICROTENDIPES SP	75
POLYPEDILUM SP.A	1
EUKIEFFERIELLA E	3
ORTHOCLADIUS B	7
ORTHOCLADIUS OBU	4
ABLABESMYIA SP.	1
OLIGOCHAETA LUMB	1

25-1/8

BAETIS INSIGNIFI	4
CENTROPTILUM SP.	1
ATTENELLA MARGAR	27
SERRATELLA TIBIA	2
TIMPANOGA HECUBA	1
EPEORUS ALBERTAE	3
HEPTAGENIA SOLIT	1
NIXE SIMPLICIOID	24
STENONEMA SP.	2
TRICORYTHODES MI	10
OPHIOGOMPHUS SP.	2
SIGARA SP.	1
CHEUMATOPSYCHE	90
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	7
HYDROPTILA SP.	1
OECETIS SP. A	2
PSYCHOMYIA FLAVI	1
OREODYTES SCITIL	2
MICROPSECTR SP.A	2
MICROTENDIPES SP	12
POLYPEDILUM SP.A	1
XENOCHIRONOMUS	1
CARDIOCLADIUS SP	1
ORTHOCLADIUS B	6
ORTHOCLADIUS OBU	5
ABLABESMYIA SP.	2
HYALELLA AZTECA	1
LYMNAEA SP.	3
OLIGOCHAETA LUMB	6

25-2/8

BAETIS INSIGNIFI	1
BAETIS TRICAUDAT	1
CENTROPTILUM SP.	2
ATTENELLA MARGAR	26
SERRATELLA TIBIA	1
TIMPANOGA HECUBA	2
HEPTAGENIA SOLIT	1
NIXE SIMPLICIOID	13
STENONEMA SP.	2
TRICORYTHODES MI	14
CLAASSENI SABULO	1
ISOGENOIDES ELON	1
OPHIOGOMPHUS SP.	1
CHEUMATOPSYCHE	124
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	10
HYDROPTILA SP.	4
DICOSMOECUS SP.	2
OREODYTES SCITIL	3
ZAITZEVIA PARVUL	6
CRYPTOCHIRONOMUS	2
MICROPSECTR SP.A	2
MICROTENDIPES SP	10
POLYPEDILUM SP.A	3
CARDIOCLADIUS SP	1
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	4
HEXATOMA SP.	1
LYMNAEA SP.	5
OLIGOCHAETA LUMB	10

25-3/8

BAETIS INSIGNIFI	1
BAETIS TRICAUDAT	1
ATTENELLA MARGAR	30
TIMPANOGA HECUBA	4
EPEORUS ALBERTAE	1
NIXE SIMPLICIOID	13
STENONEMA SP.	1
TRICORYTHODES MI	20
OPHIOGOMPHUS SP.	2
GLOSSOSOMA SP.	2
CHEUMATOPSYCHE	19
SYMPHITOPS COCKE	1
HYDROPTILA SP.	3
PSYCHOMYIA FLAVI	3
PARARGYRACTIS SP	1
OREODYTES SCITIL	2
ZAITZEVIA PARVUL	2
CRYPTOCHIRONOMUS	5
MICROPSECTR SP.A	9
MICROTENDIPES SP	14
ORTHOCLADIUS B	3
ORTHOCLADIUS OBU	7
SYNORTHOCLADIUS	1
ABLABESMYIA SP.	7
OLIGOCHAETA LUMB	1

25-4/8

CENTROPTILUM SP.	5
ATTENELLA MARGAR	29
TIMPANOGA HECUBA	5
EPEORUS ALBERTAE	1
HEPTAGENIA SOLIT	1
NIXE SIMPLICIOID	32
STENONEMA SP.	6
TRICORYTHODES MI	46
OPHIOGOMPHUS SP.	3
CHEUMATOPSYCHE	50
PSYCHOMYIA FLAVI	1
OREODYTES SCITIL	3
ZAITZEVIA PARVUL	1
CRYPTOCHIRONOMUS	7
MICROTENDIPES SP	20
POLYPEDILUM SP.A	1
ORTHOCLADIUS NIG	1
ORTHOCLADIUS OBU	3
ABLABESMYIA SP.	4
SIMULIUM SP.	1
LYMNAEA SP.	2
OLIGOCHAETA LUMB	4

Table 16. Continued

27-1/8	
CENTROPTILUM SP.	5
STENONEMA SP.	1
TRICORYTHODES MI	2
PARARGYRACTIS SP	1
DUBIRAPHIA SP.	1
MICROTENDIPES SP	2
PARACHIRONOMUS	1
OLIGOCHAETA LUMB	8
27-2/8	
CENTROPTILUM SP.	3
HEPTAGENIA SOLIT	1
OPTIOSERVUS SPP.	1
OLIGOCHAETA LUMB	36
27-3/8	
BAETIS TRICAUDAT	1
CENTROPTILUM SP.	4
ATTENELLA MARGAR	1
NIXE SIMPLICIOID	1
OLIGOCHAETA	1
OLIGOCHAETA LUMB	17
27-4/8	
CENTROPTILUM SP.	1
PARACHIRONOMUS	1
HYALELLA AZTECA	1
OLIGOCHAETA LUMB	3
31-1/8	
OLIGOCHAETA LUMB	10
31-2/8	
OLIGOCHAETA LUMB	15
31-3/8	
OLIGOCHAETA LUMB	4
31-4/8	
HELOPHORUS SP.	1
OLIGOCHAETA LUMB	4

Table 16. Deep Water Monitoring Stations - Petite Ponar Grab Samples

03-2/7	
CRICOTOPUS SP. E	1
13/7	
BAETIS TRICAUDAT	1
CENTROPTILUM SP.	2
NIXE SIMPLICIOID	1
RHITHROGENA HAGE	1
TRICORYTHODES MI	15
HYDROPTILA SP.	3
OPTIOSERVUS SPP.	1
CHIRONOMUS SP.	2
CRYPTOCHIRONOMUS	3
MICROTENDIPES SP	24
PARACLADOPE SP.C	1
PARATANYTARSUS	4
PHAENOPSECTRA SP	87
RHEOTANYTARSUS	2
ORTHOCLADIUS OBU	1
OLIGOCHAETA	6
15/7	
NIXE SIMPLICIOID	4
PARALEPTOPHL DEB	1
TRICORYTHODES MI	3
CHEUMATOPSYCHE	1
MICROTENDIPES SP	18
PHAENOPSECTRA SP	16
RHEOTANYTARSUS	1
ORTHOCLADIUS OBU	1
PSECTROCLADIUS B	3
OLIGOCHAETA	39
16/7	
BAETIS INSIGNIFI	1
CENTROPTILUM SP.	1
NIXE SIMPLICIOID	4
RHITHROGENA HAGE	1
PARALEPTOPHL DEB	1
TRICORYTHODES MI	1
HYDROPTILA SP.	5
PSYCHOMYIA FLAVI	1
CRYPTOCHIRONOMUS	3
MICROTENDIPES SP	4
PARACLADOPE SP.B	1
PARACLADOPE SP.C	3
PHAENOPSECTRA SP	19
ROBACKIA SP.	1
RHEOTANYTARSUS	3
CORYNONEURA SP.	1
ORTHOCLADIUS B	2
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	3
PSECTROCLADIUS B	1
SYNORTHOCLADIUS	5
OLIGOCHAETA	41
17/7	
BAETIS TRICAUDAT	1
NIXE SIMPLICIOID	4
RHITHROGENA HAGE	1
HYDROPSYCHE SP.B	1
SYMPHITOPS SP. A	1
RHEOTANYTARSUS	1
CARDIOCLADIUS SP	1
18/7	
BAETIS INSIGNIFI	1
NIXE SIMPLICIOID	1
TRICORYTHODES MI	2
MICROTENDIPES SP	5
PSECTROCLADIUS B	1
OLIGOCHAETA	1
20/7	
CENTROPTILUM SP.	1
NIXE SIMPLICIOID	1
MICROTENDIPES SP	11
PHAENOPSECTRA SP	2
POLYPEDILUM SP.A	1
MONODIAMESA SP.	2
ODONTOMESA SP.	1
OLIGOCHAETA	10
20.5/7	
NIXE SIMPLICIOID	1
PARACLADOPE SP.B	2
PHAENOPSECTRA SP	3
POLYPEDILUM SP.A	1
MONODIAMESA SP.	8
ODONTOMESA SP.	1
EUKIEFFERIELLA F	4
OLIGOCHAETA	62

Table 16. Continued

21--1/7	
NIXE SIMPLICIOID	1
CRYPTOCHIRONOMUS	1
MICROTENDIPES SP	5
PARACLADOPE SP.B	1
POLYPEDILUM SP.A	5
OLIGOCHAETA	6

21-2/7	
MICROTENDIPES SP	8
PARACLADOPE SP.B	3
POLYPEDILUM SP.A	5
RHEOTANYTARSUS	1
CORYNONEURA SP.	2

21--3/7	
CRYPTOCHIRONOMUS	1
MICROTENDIPES SP	6
PARACLADOPE SP.B	2
POLYPEDILUM SP.A	1
ORTHOCLADIUS NIG	1
ORTHOCLADIUS OBU	1
PSECTROCLADIUS B	2
SYNORTHOCLADIUS	1
OLIGOCHAETA	6

21.5/7	
NIXE SIMPLICIOID	1
TRICORYTHODES MI	1
CRYPTOCHIRONOMUS	2
MICROTENDIPES SP	7
POLYPEDILUM SP.A	1
RHEOTANYTARSUS	1
OLIGOCHAETA	28

22/7	
CENTROPTILUM SP.	1
ATTENELLA MARGAR	1
NIXE SIMPLICIOID	2
NEOTRICHIA SP.	2
RHEOTANYTARSUS	7

26-1/7	
CHIRONOMUS SP.	9
CRYPTOTENDIPE SP	2
MICROPSECTR SP.B	1
PARALAUTERBORNIE	50
PARATANYTARSUS	1
PHAENOPSECTRA SP	22
POLYPEDILUM SP.C	154
STEMPELLINELLA	2
TANYTARSUS SP.	2
MONODIAMESA SP.	3
PSECTROCLADIUS A	1
PROCLADIUS SP. A	5
OLIGOCHAETA	320

26-2/7	
EPEORUS ALBERTAE	1
SYMPHITOPS COCKE	1
OPTIOSERVUS SPP.	1
CHIRONOMUS SP.	10
CRYPTOCHIRONOMUS	1
CRYPTOTENDIPE SP	11
PARALAUTERBORNIE	56
PHAENOPSECTRA SP	48
POLYPEDILUM SP.C	256
STEMPELLINELLA	1
TANYTARSUS SP.	6
MONODIAMESA SP.	2
ORTHOCLADIUS OBU	1
PROCLADIUS SP. A	15
OLIGOCHAETA	360

26-3/7	
CHIRONOMUS SP.	4
CRYPTOTENDIPE SP	1
PARALAUTERBORNIE	10
PHAENOPSECTRA SP	17
POLYPEDILUM SP.C	35
STEMPELLINELLA	1
TANYTARSUS SP.	1
PROCLADIUS SP. A	5
OLIGOCHAETA	38

28A-1/7	
CHIRONOMUS SP.	1
PROCLADIUS SP. A	1
28A-2/7	
PROCLADIUS SP. A	9
OLIGOCHAETA	1
28A-3/7	
CHIRONOMUS SP.	3
CRYPTOTENDIPE SP	1
PROCLADIUS SP. A	18
OLIGOCHAETA	93
28B-1/7	
CHIRONOMUS SP.	8
CRYPTOTENDIPE SP	1
HARNISCHIA SP.	3
TANYTARSUS SP.	3
PROCLADIUS SP. A	6
OLIGOCHAETA	123
28B-2/7	
CHIRONOMUS SP.	1
CRYPTOTENDIPE SP	1
HARNISCHIA SP.	3
PROCLADIUS SP. A	6
PROCLADIUS SP. B	3
OLIGOCHAETA	18
28B-3/7	
CHIRONOMUS SP.	3
HARNISCHIA SP.	4
PROCLADIUS SP. A	12
OLIGOCHAETA	131
28B-4/7	
PALPOMY-GP SP. A	1
CHIRONOMUS SP.	5
HARNISCHIA SP.	2
TANYTARSUS SP.	2
PROCLADIUS SP. A	8
OSTRACODA	2
UNIONICOLA SP.	1
OLIGOCHAETA	57
30-1/7	
HARNISCHIA SP.	1
PAGASTIELLA SP.	2
PARATANYTARSUS	2
HETEROTRISSOCLAD	2
CLADOCERA	1
HYALELLA AZTECA	1
LYMNAEA SP.	1
30-2/7	
PALPOMY-GP SP. A	1
CLADOTANYTARSUS	5
CRYPTOTENDIPE SP	4
HARNISCHIA SP.	2
LENZIELLA SP.	2
MICROPSECTR SP.B	2
PAGASTIELLA SP.	7
POLYPEDILUM SP.B	2
STEMPELLINA SP.	2
PROCLADIUS SP. A	2
30-3/7	
CRYPTOTENDIPE SP	1
OLIGOCHAETA	1

Table 16. Benthic Macroinvertebrate Sample Counts and Identifications
Fall 1984

Shallow Water Stations - Kick Samples

01A-11Q	
BAETIS INSIGNIFI	24
BAETIS TRICAUDAT	76
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	2728
CINYGMULA SP.	8
RHITHROGENA HAGE	204
PARALEPTOPHL MEM	16
AMELETUS VELOX	16
ALLOPERLA-GROUP	8
PROSTOIA BESAMET	16
CULTUS PILATUS	4
CLAASSENI SABULO	24
ISOGENOIDES ELON	16
ISOPERLA FULVA	124
ISOPERLA QUINQUE	12
PTERONARCELLA BA	56
ARCTOPSYCHE GRAN	40
CHEUMATOPSYCHE	32
HYDROPSYCHE OCCI	792
SYMPHITOPS COCKE	28
SYMPHITOPS SLOSS	80
LEPIDOSTOMA SP.A	36
OPTIOSERVUS SPP.	32
ZAITZEVIA PARVUL	36
MICROPSECTR SP.A	4
DIAMESA SP. B	12
EUKIEFFERIELLA B	52
ORTHOCLADIUS OBU	16
HEXATOMA SP.	24

01B-11Q	
BAETIS INSIGNIFI	4
BAETIS TRICAUDAT	36
DRUNELLA GRANDIS	8
EPHEMERELLA INFR	2144
RHITHROGENA HAGE	168
PARALEPTOPHL MEM	16
AMELETUS VELOX	4
ALLOPERLA-GROUP	16
PROSTOIA BESAMET	4
ZAPADA CINCTIPES	24
CLAASSENI SABULO	28
ISOGENOIDES ELON	28
ISOPERLA FULVA	140
ISOPERLA QUINQUE	12
SKWALA PARALLELA	4
PTERONARCELLA BA	56
PTERONARCYS CALI	4
TAENIONEMA PACIF	8
ARCTOPSYCHE GRAN	64
CHEUMATOPSYCHE	36
HYDROPSYCHE OCCI	1336
SYMPHITOPS COCKE	28
SYMPHITOPS SLOSS	80
HYDROPTILA SP.	12
LEPIDOSTOMA SP.A	28
OECETIS SP. A	4
OPTIOSERVUS SPP.	64
ZAITZEVIA PARVUL	56
ATHERIX VARIEGAT	16
DIAMESA SP. B	4
CRICOTOPUS SP. B	12
EUKIEFFERIELLA B	36
EUKIEFFERIELLA E	12
EUKIEFFERIELLA H	4
ORTHOCLADIUS B	4
SIMULIUM SP.	40
HEXATOMA SP.	28

Table 16. Continued

01C-11Q	
BAETIS INSIGNIFI	36
BAETIS TRICAUDAT	164
EPHEMERELLA INFR	4812
EPEORUS ALBERTAE	12
RHITHROGENA HAGE	660
PARALEPTOPHL MEM	36
AMELETUS VELOX	4
CAPNIA-GROUP SP.	4
ALLOPERLA-GROUP	16
ZAPADA CINCTIPES	12
CLAASSENI SABULO	40
HESPEROPERLA PAC	4
ISOGENOIDES ELON	24
ISOPERLA FULVA	144
ISOPERLA QUINQUE	20
SKWALA PARALLELA	12
PTERONARCELLA BA	44
TAENIONEMA PACIF	16
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	324
SYMPHITOPS COCKE	8
SYMPHITOPS SLOSS	80
HYDROPTILA SP.	24
LEPIDOSTOMA SP.A	32
OECETIS SP. A	4
OPTIOSERVUS SPP.	36
ZAITZEVIA PARVUL	12
ATHERIX VARIEGAT	4
MICROTENDIPES SP	8
CRICOTOPUS SP. B	44
EUKIEFFERIELLA B	36
EUKIEFFERIELLA H	8
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	24
SIMULIUM SP.	8
HEXATOMA SP.	24

01D-11Q	
BAETIS INSIGNIFI	20
BAETIS TRICAUDAT	88
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	2024
CINYGMULA SP.	4
EPEORUS ALBERTAE	4
RHITHROGENA HAGE	208
PARALEPTOPHL MEM	8
AMELETUS VELOX	4
CAPNIA-GROUP SP.	4
ZAPADA CINCTIPES	8
ISOPERLA FULVA	92
ISOPERLA QUINQUE	8
PTERONARCELLA BA	44
TAENIONEMA PACIF	8
ARCTOPSYCHE GRAN	56
CHEUMATOPSYCHE	60
HYDROPSYCHE OCCI	1408
SYMPHITOPS COCKE	40
SYMPHITOPS SLOSS	116
HYDROPTILA SP.	12
LEPIDOSTOMA SP.A	48
CERACLEA SP.	4
OECETIS SP. A	4
OPTIOSERVUS SPP.	16
ZAITZEVIA PARVUL	40
ATHERIX VARIEGAT	4
POLYPEDILUM SP.A	4
CRICOTOPUS SP. B	8
EUKIEFFERIELLA B	52
EUKIEFFERIELLA E	24
EUKIEFFERIELLA H	12
ORTHOCLADIUS OBU	8
SIMULIUM SP.	16
HEXATOMA SP.	40

Table 16. Continued

02A-11H	
BAETIS INSIGNIFI	6
BAETIS TRICAUDAT	18
EPHEMERELLA INFR	416
EPEORUS ALBERTAE	2
RHITHROGENA HAGE	164
PARALEPTOPHL MEM	80
AMELETUS VELOX	4
CAPNIA-GROUP SP.	4
ALLOPERLA-GROUP	30
ZAPADA CINCTIPES	4
CALINEURIA CALIF	12
CLAASSENI SABULO	72
HESPEROPERLA PAC	4
CULTUS PILATUS	2
ISOPERLA FULVA	12
ISOPERLA QUINQUE	2
SKWALA PARALLELA	2
PTERONARCYS CALI	8
CHEUMATOPSYCHE	54
HYDROPSYCHE OCCI	42
SYMPHITOPS COCKE	6
SYMPHITOPS SLOSS	62
HYDROPTILA SP.	48
LEUCOTRICHIA PIC	2
LEPIDOSTOMA SP.A	12
OECETIS SP. A	2
PSYCHOMYIA FLAVI	14
RHYACOPHILA BIFI	4
PARARGYRACTIS SP	2
OPTIOSERVUS SPP.	46
ZAITZEVIA PARVUL	30
MICROTENDIPES SP	4
POLYPEDILUM SP.C	2
RHEOTANYTARSUS	6
CRICOTOPUS SP. B	44
EUKIEFFERIELLA B	6
EUKIEFFERIELLA H	12
ORTHOCLADIUS B	10
ORTHOCLADIUS OBU	14
WIEDEMANNIA SP.	2
ANTOCHA SP.	4
HEXATOMA SP.	18
PHYSA SP.	4
OLIGOCHAETA LUMB	2
TURBELLARI	2

02B-11H	
BAETIS INSIGNIFI	22
BAETIS TRICAUDAT	50
DRUNELLA GRANDIS	2
EPHEMERELLA INFR	444
EPEORUS ALBERTAE	2
RHITHROGENA HAGE	202
PARALEPTOPHL MEM	18
AMELETUS VELOX	2
CAPNIA-GROUP SP.	4
ALLOPERLA-GROUP	22
ZAPADA CINCTIPES	2
CALINEURIA CALIF	18
CLAASSENI SABULO	30
HESPEROPERLA PAC	4
ISOPERLA FULVA	16
SKWALA PARALLELA	8
HELICOPSYCHE BOR	22
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	94
HYDROPSYCHE OCCI	12
SYMPHITOPS COCKE	26
SYMPHITOPS SLOSS	244
HYDROPTILA SP.	43
LEPIDOSTOMA SP.A	6
OECETIS SP. A	8
APATANIA SP.	2
PSYCHOMYIA FLAVI	2
RHYACOPHILA BIFI	2
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	38
ZAITZEVIA PARVUL	38
MICROTENDIPES SP	2
POLYPEDILUM SP.A	4
RHEOTANYTARSUS	30
POTTHASTIA SP.	2
CRICOTOPUS SP. B	44
EUKIEFFERIELLA B	2
EUKIEFFERIELLA E	2
EUKIEFFERIELLA H	4
ORTHOCLADIUS B	14
ORTHOCLADIUS OBU	12
WIEDEMANNIA SP.	2
ANTOCHA SP.	2
HEXATOMA SP.	26
SPERCHON SP.	2
PHYSA SP.	18
OLIGOCHAETA LUMB	2
TURBELLARI	4

Table 16. Continued

02C-11H	
BAETIS INSIGNIFI	24
BAETIS TRICAUDAT	102
DRUNELLA DODDSI	2
DRUNELLA GRANDIS	2
EPHEMERELLA INFR	560
EPEORUS ALBERTAE	10
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	238
PARALEPTOPHL MEM	36
CAPNIA-GROUP SP.	4
ALLOPERLA-GROUP	42
ZAPADA CINCTIPES	2
CALINEURIA CALIF	20
CLAASSENI SABULO	36
HESPEROPERLA PAC	2
ISOPERLA FULVA	24
SKWALA PARALLELA	4
PTERONARCYS CALI	6
HELICOPSYCHE BOR	4
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	176
HYDROPSYCHE OCCI	28
SYMPHITOPS COCKE	30
SYMPHITOPS SLOSS	240
HYDROPTILA SP.	70
LEUCOTRICHIA PIC	2
LEPIDOSTOMA SP.A	24
PSYCHOMYIA FLAVI	14
RHYACOPHILA BIFI	10
PARARGYRACTIS SP	2
OPTIOSERVUS SPP.	42
ZAITZEVIA PARVUL	76
MICROTENDIPES SP	8
RHEOTANYTARSUS	2
CRICOTOPUS SP. B	14
EUKIEFFERIELLA B	10
EUKIEFFERIELLA H	8
ORTHOCLADIUS B	16
ORTHOCLADIUS OBU	8
ABLABESMYIA SP.	2
WIEDEMANNIA SP.	2
HEXATOMA SP.	40
SPERCHON SP.	2
PHYSA SP.	10
OLIGOCHAETA	2
OLIGOCHAETA LUMB	8
TURBELLARI	2

02D-11H	
BAETIS INSIGNIFI	10
BAETIS TRICAUDAT	48
DRUNELLA DODDSI	2
EPHEMERELLA INFR	550
EPEORUS ALBERTAE	2
RHITHROGENA HAGE	268
PARALEPTOPHL MEM	106
CAPNIA-GROUP SP.	8
ALLOPERLA-GROUP	58
ZAPADA CINCTIPES	14
CALINEURIA CALIF	40
CLAASSENI SABULO	68
HESPEROPERLA PAC	4
CULTUS PILATUS	2
ISOPERLA FULVA	26
PTERONARCYS CALI	4
ARCTOPSYCHE GRAN	10
CHEUMATOPSYCHE	140
HYDROPSYCHE OCCI	24
SYMPHITOPS COCKE	32
SYMPHITOPS SLOSS	328
HYDROPTILA SP.	32
LEPIDOSTOMA SP.A	12
PSYCHOMYIA FLAVI	2
RHYACOPHILA BIFI	2
OPTIOSERVUS SPP.	42
ZAITZEVIA PARVUL	50
ATHERIX VARIEGAT	2
MICROTENDIPES SP	6
POLYPEDILUM SP.A	4
RHEOTANYTARSUS	2
TANYTARSUS SP. B	2
POTTHASTIA SP.	2
CRICOTOPUS SP. B	44
EUKIEFFERIELLA B	14
EUKIEFFERIELLA H	10
ORTHOCLADIUS B	6
ORTHOCLADIUS OBU	12
THIENEMANIELL SP	2
ABLABESMYIA SP.	2
WIEDEMANNIA SP.	2
SIMULIUM SP.	4
ANTOCHA SP.	2
HEXATOMA SP.	14
PHYSA SP.	8
OLIGOCHAETA LUMB	8
TURBELLARI	2

Table 16. Continued

04A-11Q	
BAETIS INSIGNIFI	4
BAETIS TRICAUDAT	24
DRUNELLA DODDSI	4
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	292
RHITHROGENA HAGE	56
ALLOPERLA-GROUP	4
HESPEROPERLA PAC	8
ISOGENOIDES ELON	4
ISOPERLA FULVA	32
PTERONARCELLA BA	4
PTERONARCYS CALI	4
TAENIONEMA PACIF	16
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	204
HYDROPSYCHE OCCI	584
SYMPHITOPS COCKE	120
SYMPHITOPS SLOSS	88
HYDROPTILA SP.	56
PSYCHOMYIA FLAVI	16
RHYACOPHILA BIFI	12
PARARGYRACTIS SP	4
ZAITZEVIA PARVUL	40
MICROTENDIPES SP	16
POLYPEDILUM SP.A	8
CRICOTOPUS SP. B	12
EUKIEFFERIELLA B	52
EUKIEFFERIELLA E	12
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	4
SIMULIUM SP.	12
ANTOCHA SP.	8

04B-11Q	
BAETIS TRICAUDAT	[illegible]
DRUNELLA GRANDIS	16
EPHEMERELLA INFR	[illegible]
RHITHROGENA HAGE	60
PARALEPTOPHL [illegible]	12
CAPNIA-GROUP SP.	4
ZAPADA CINCTIPES	12
CLAASSENI SABULO	16
HESPEROPERLA PAC	8
ISOGENOIDES ELON	24
ISOPERLA FULVA	68
PTERONARCELLA BA	12
PTERONARCYS CALI	16
TAENIONEMA PACIF	16
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	28
CHEUMATOPSYCHE	416
HYDROPSYCHE OCCI	692
SYMPHITOPS COCKE	208
SYMPHITOPS SLOSS	16
HYDROPTILA SP.	124
PSYCHOMYIA FLAVI	32
RHYACOPHILA BIFI	8
PARARGYRACTIS SP	8
OPTIOSERVUS SPP.	28
ZAITZEVIA PARVUL	40
MICROTENDIPES SP	80
POLYPEDILUM SP.A	4
CRICOTOPUS SP. B	4
EUKIEFFERIELLA B	28
EUKIEFFERIELLA E	4
EUKIEFFERIELLA H	4
ORTHOCLADIUS B	8
ABLABESMYIA SP.	4
SIMULIUM SP.	4

04C-11Q	
BAETIS TRICAUDAT	32
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	344
RHITHROGENA HAGE	68
PARALEPTOPHL MEM	4
AMELETUS VELOX	8
CAPNIA-GROUP SP.	8
ZAPADA CINCTIPES	4
ISOGENOIDES ELON	20
ISOPERLA FULVA	76
SKWALA PARALLELA	4
PTERONARCELLA BA	16
PTERONARCYS CALI	4
TAENIONEMA PACIF	4
ARCTOPSYCHE GRAN	16
CHEUMATOPSYCHE	280
HYDROPSYCHE OCCI	520
SYMPHITOPS COCKE	144
SYMPHITOPS SLOSS	44
HYDROPTILA SP.	160
LEPIDOSTOMA SP.A	4
PSYCHOMYIA FLAVI	20
RHYACOPHILA BIFI	4
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	36
MICROTENDIPES SP	36
POLYPEDILUM SP.A	4
RHEOTANYTARSUS	4
CRICOTOPUS SP. B	4
EUKIEFFERIELLA B	28
EUKIEFFERIELLA E	4
EUKIEFFERIELLA H	12
ORTHOCLADIUS OBU	8
ABLABESMYIA SP.	4

04D-11Q	
BAETIS INSIGNIFI	4
BAETIS TRICAUDAT	40
DRUNELLA GRANDIS	16
EPHEMERELLA INFR	240
RHITHROGENA HAGE	48
PARALEPTOPHL MEM	8
CAPNIA-GROUP SP.	12
ALLOPERLA-GROUP	4
CLAASSENI SABULO	4
HESPEROPERLA PAC	4
ISOGENOIDES ELON	16
ISOPERLA FULVA	68
ISOPERLA QUINQUE	4
PTERONARCELLA BA	8
PTERONARCYS CALI	4
TAENIONEMA PACIF	8
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	276
HYDROPSYCHE OCCI	492
SYMPHITOPS COCKE	140
SYMPHITOPS SLOSS	32
HYDROPTILA SP.	84
PSYCHOMYIA FLAVI	20
PARARGYRACTIS SP	12
OPTIOSERVUS SPP.	24
ZAITZEVIA PARVUL	44
MICROTENDIPES SP	24
EUKIEFFERIELLA B	28
EUKIEFFERIELLA E	4
EUKIEFFERIELLA H	8
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	8
ABLABESMYIA SP.	4
WIEDEMANNIA SP.	4
SIMULIUM SP.	8
OLIGOCHAETA LUMB	4

Table 16. Continued

05A-10H	
BAETIS INSIGNIFI	12
BAETIS TRICAUDAT	16
EPHEMERELLA INFR	292
RHITHROGENA HAGE	52
PARALEPTOPHL MEM	4
AMELETUS VELOX	6
CAPNIA-GROUP SP.	2
HESPEROPERLA PAC	2
ISOGENOIDES ELON	4
ISOPERLA FULVA	40
PTERONARCELLA BA	2
PTERONARCYS CALI	4
ARCTOPSYCHE GRAN	10
CHEUMATOPSYCHE	78
HYDROPSYCHE OCCI	230
SYMPHITOPS COCKE	80
SYMPHITOPS SLOSS	16
HYDROPTILA SP.	6
OECETIS SP. A	2
PSYCHOMYIA FLAVI	4
OPTIOSERVUS SPP.	10
ZAITZEVIA PARVUL	4
MICROTENDIPES SP	2
POLYPEDILUM SP.A	2
CRICOTOPUS SP. B	28
EUKIEFFERIELLA B	18
EUKIEFFERIELLA H	4
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	2
ABLABESMYIA SP.	2
WIEDEMANNIA SP.	2
HEXATOMA SP.	4

05B-10H	
BAETIS INSIGNIFI	10
BAETIS TRICAUDAT	4
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	274
RHITHROGENA HAGE	22
PARALEPTOPHL MEM	4
AMELETUS VELOX	2
CLAASSENI SABULO	4
ISOPERLA FULVA	30
ISOPERLA QUINQUE	4
SKWALA PARALLELA	4
ARCTOPSYCHE GRAN	6
CHEUMATOPSYCHE	164
HYDROPSYCHE OCCI	342
SYMPHITOPS COCKE	116
SYMPHITOPS SLOSS	16
HYDROPTILA SP.	10
OECETIS SP. A	2
PSYCHOMYIA FLAVI	4
RHYACOPHILA BIFI	4
ZAITZEVIA PARVUL	2
CRICOTOPUS SP. B	8
EUKIEFFERIELLA B	26
EUKIEFFERIELLA E	2
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	2
WIEDEMANNIA SP.	6
ANTOCHA SP.	2
HEXATOMA SP.	4

Table 16. Continued

05C-10H	
BAETIS INSIGNIFI	20
BAETIS TRICAUDAT	10
EPHEMERELLA INFR	532
CINYGMULA SP.	2
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	56
PARALEPTOPHL MEM	8
AMELETUS VELOX	6
CAPNIA-GROUP SP.	12
ALLOPERLA-GROUP	2
ZAPADA CINCTIPES	2
CLAASSENI SABULO	2
HESPEROPERLA PAC	8
CULTUS PILATUS	2
ISOGENOIDES ELON	14
ISOPERLA FULVA	82
ISOPERLA QUINQUE	2
SKWALA PARALLELA	4
PTERONARCELLA BA	4
PTERONARCYS CALI	2
TAENIONEMA PACIF	4
ARCTOPSYCHE GRAN	28
CHEUMATOPSYCHE	78
HYDROPSYCHE OCCI	288
SYMPHITOPS COCKE	110
SYMPHITOPS SLOSS	22
HYDROPTILA SP.	14
LEPIDOSTOMA SP.A	2
PSYCHOMYIA FLAVI	8
RHYACOPHILA BIFI	2
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	14
POLYPEDILUM SP.A	2
CRICOTOPUS SP. B	16
EUKIEFFERIELLA B	40
EUKIEFFERIELLA H	4
HETEROTRISSOCLAD	2
ORTHOCLADIUS B	14
ORTHOCLADIUS OBU	10
WIEDEMANNIA SP.	4
SIMULIUM SP.	4
HEXATOMA SP.	12

05D-10H	
BAETIS INSIGNIFI	6
BAETIS TRICAUDAT	2
EPHEMERELLA INFR	176
RHITHROGENA HAGE	34
PARALEPTOPHL MEM	6
CAPNIA-GROUP SP.	10
ALLOPERLA-GROUP	4
HESPEROPERLA PAC	2
CULTUS PILATUS	2
ISOGENOIDES ELON	6
ISOPERLA FULVA	30
ISOPERLA QUINQUE	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	40
HYDROPSYCHE OCCI	88
SYMPHITOPS COCKE	50
SYMPHITOPS SLOSS	10
HYDROPTILA SP.	2
LEPIDOSTOMA SP.A	2
OECETIS SP. A	2
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	8
CRICOTOPUS SP. B	4
EUKIEFFERIELLA B	6
ORTHOCLADIUS B	2
HEXATOMA SP.	14

Table 16. Continued

06A-10H	
BAETIS INSIGNIFI	10
BAETIS TRICAUDAT	6
EPHEMERELLA INFR	304
HEPTAGENIA SOLIT	6
RHITHROGENA HAGE	10
PARALEPTOPHL MEM	4
HESPEROPERLA PAC	2
ISOPERLA FULVA	16
PTERONARCELLA BA	2
PTERONARCYS CALI	2
OPHIOGOMPHUS SP.	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	176
HYDROPSYCHE OCCI	46
SYMPHITOPS COCKE	16
HYDROPTILA SP.	20
LEPIDOSTOMA SP.A	2
OECETIS SP. A	66
PSYCHOMYIA FLAVI	18
RHYACOPHILA BIFI	2
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	18
CRYPTOCHIRONOMUS	2
MICROTENDIPES SP	48
EUKIEFFERIELLA H	4
ORTHOCLADIUS OBU	12
THIENEMANIELL SP	2
ABLABESMYIA SP.	4
SIMULIUM SP.	2
HEXATOMA SP.	10

06B-10H	
BAETIS INSIGNIFI	14
BAETIS TRICAUDAT	14
DRUNELLA GRANDIS	6
EPHEMERELLA INFR	494
CINYGMULA SP.	2
HEPTAGENIA SOLIT	28
RHITHROGENA HAGE	54
PARALEPTOPHL MEM	16
AMELETUS VELOX	4
CLAASSENI SABULO	2
ISOGENOIDES ELON	8
ISOPERLA FULVA	16
ISOPERLA QUINQUE	4
SKWALA PARALLELA	2
PTERONARCELLA BA	4
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	140
HYDROPSYCHE OCCI	78
SYMPHITOPS COCKE	34
HYDROPTILA SP.	16
ZUMATRICHIA NOTO	2
CERACLEA SP.	2
OECETIS SP. A	38
PSYCHOMYIA FLAVI	36
PARARGYRACTIS SP	2
OPTIOSERVUS SPP.	6
ZAITZEVIA PARVUL	16
ATHERIX VARIEGAT	4
MICROTENDIPES SP	4
EUKIEFFERIELLA B	2
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	18
SYNORTHOCLADIUS	2
ABLABESMYIA SP.	2

Table 16. Continued

06C-10H	
BAETIS INSIGNIFI	8
BAETIS TRICAUDAT	10
EPHEMERELLA INFR	398
HEPTAGENIA SOLIT	14
RHITHROGENA HAGE	20
PARALEPTOPHL MEM	8
ALLOPERLA-GROUP	2
CULTUS PILATUS	2
ISOGENOIDES ELON	8
ISOPERLA FULVA	12
PTERONARCELLA BA	2
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	126
HYDROPSYCHE OCCI	84
SYMPHITOPS COCKE	36
HYDROPTILA SP.	24
OECETIS SP. A	50
PSYCHOMYIA FLAVI	30
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	6
MICROTENDIPES SP	28
CRICOTOPUS SP. B	2
EUKIEFFERIELLA E	2
EUKIEFFERIELLA H	2
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	6
ABLABESMYIA SP.	2
ANTOCHA SP.	2
HEXATOMA SP.	2

06D-10H	
BAETIS INSIGNIFI	2
BAETIS TRICAUDAT	10
EPHEMERELLA INFR	518
HEPTAGENIA SOLIT	24
RHITHROGENA HAGE	40
PARALEPTOPHL MEM	2
ALLOPERLA-GROUP	2
CLAASSENI SABULO	2
CULTUS PILATUS	2
ISOGENOIDES ELON	2
ISOPERLA FULVA	16
ISOPERLA QUINQUE	2
PTERONARCELLA BA	2
PTERONARCYS CALI	2
BRACHYCENTRUS AM	2
CHEUMATOPSYCHE	154
HYDROPSYCHE OCCI	78
SYMPHITOPS COCKE	28
HYDROPTILA SP.	4
CERACLEA SP.	2
OECETIS SP. A	16
PSYCHOMYIA FLAVI	28
OREODYTES SCITIL	4
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	20
ATHERIX VARIEGAT	2
MICROTENDIPES SP	4
POLYPEDILUM SP.A	2
CRICOTOPUS SP. B	4
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	6
ABLABESMYIA SP.	2
CHELIFERA SP.	2
WIEDEMANNIA SP.	4
HEXATOMA SP.	4

Table 16. Continued

08A-10Q	
BAETIS INSIGNIFI	4
BAETIS TRICAUDAT	4
EPHEMERELLA INFR	500
RHITHROGENA HAGE	8
ALLOPERLA-GROUP	4
ZAPADA CINCTIPES	12
HESPEROPERLA PAC	4
ISOGENOIDES ELON	4
PTERONARCELLA BA	4
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	40
HYDROPSYCHE OCCI	140
SYMPHITOPS COCKE	68
HYDROPTILA SP.	44
OECETIS SP. A	8
PSYCHOMYIA FLAVI	8
PARARGYRACTIS SP	12
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	4
DICROTENDIP SP.C	4
MICROTENDIPES SP	68
PHAENOPSECTRA SP	8
TANYTARSUS SP. B	56
DIAMESA SP. B	4
POTTHASTIA SP.	4
CRICOTOPUS SP. B	64
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	4
EUKIEFFERIELLA H	12
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	12
ABLABESMYIA SP.	4
WIEDEMANNIA SP.	4
OLIGOCHAETA	12
OLIGOCHAETA LUMB	4

08B-10Q	
BAETIS INSIGNIFI	8
BAETIS TRICAUDAT	4
EPHEMERELLA INFR	368
RHITHROGENA HAGE	8
CAPNIA-GROUP SP.	8
ZAPADA CINCTIPES	4
PTERONARCELLA BA	4
PTERONARCYS CALI	4
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	88
HYDROPSYCHE OCCI	176
SYMPHITOPS COCKE	52
HYDROPTILA SP.	28
PSYCHOMYIA FLAVI	48
PARARGYRACTIS SP	12
OPTIOSERVUS SPP.	4
CHIRONOMUS SP.	40
MICROTENDIPES SP	52
PHAENOPSECTRA SP	16
POLYPEDILUM SP.A	28
TANYTARSUS SP. B	84
DIAMESA SP. B	4
CRICOTOPUS SP. B	32
EUKIEFFERIELLA B	12
EUKIEFFERIELLA E	4
EUKIEFFERIELLA H	4
ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	8
OLIGOCHAETA	4
OLIGOCHAETA LUMB	4

Table 16. Continued

08C-100	
BAETIS INSIGNIFI	4
BAETIS TRICAUDAT	8
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	440
RHITHROGENA HAGE	4
CAPNIA-GROUP SP.	16
ISOGENOIDES ELON	4
PTERONARCYS CALI	8
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	84
HYDROPSYCHE OCCI	204
SYMPHITOPS COCKE	100
HYDROPTILA SP.	76
OECETIS SP. A	12
PSYCHOMYIA FLAVI	24
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	4
CHIRONOMUS SP.	12
MICROTENDIPES SP	76
PHAENOPSECTRA SP	16
POLYPEDILUM SP.A	8
TANYTARSUS SP. B	72
DIAMESA SP. B	4
CRICOTOPUS SP. B	36
EUKIEFFERIELLA B	4
EUKIEFFERIELLA H	4
ORTHOCLADIUS OBU	16
WIEDEMANNIA SP.	4
EPHYDRIDAE	4

08D-100	
BAETIS INSIGNIFI	4
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	356
RHITHROGENA HAGE	4
AMELETUS VELOX	4
TRICORYTHODES MI	4
CAPNIA-GROUP SP.	4
HESPEROPERLA PAC	4
ISOPERLA FULVA	8
PTERONARCELLA BA	4
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	120
HYDROPSYCHE OCCI	196
SYMPHITOPS COCKE	68
HYDROPTILA SP.	64
LEPIDOSTOMA SP.A	8
OECETIS SP. A	4
PSYCHOMYIA FLAVI	8
PARARGYRACTIS SP	16
OPTIOSERVUS SPP.	16
ZAITZEVIA PARVUL	4
MICROTENDIPES SP	52
POLYPEDILUM SP.A	12
TANYTARSUS SP. B	24
DIAMESA SP. B	4
CRICOTOPUS SP. B	12
EUKIEFFERIELLA B	20
EUKIEFFERIELLA H	12
ORTHOCLADIUS B	4
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	20
ABLABESMYIA SP.	4
OLIGOCHAETA	8

Table 16. Continued

09A-10Q	
BAETIS INSIGNIFI	12
BAETIS TRICAUDAT	4
EPHEMERELLA INFR	420
HEPTAGENIA SOLIT	20
RHITHROGENA HAGE	28
PARALEPTOPHL MEM	4
CAPNIA-GROUP SP.	12
ISOGENOIDES ELON	12
ISOPERLA FULVA	4
SKWALA PARALLELA	4
CHEUMATOPSYCHE	108
HYDROPSYCHE OCCI	28
SYMPHITOPS COCKE	4
HYDROPTILA SP.	132
OECETIS SP. A	24
PSYCHOMYIA FLAVI	84
MICROTENDIPES SP	48
PHAENOPSECTRA SP	4
TANYTARSUS SP. B	36
CRICOTOPUS SP. B	4
EUKIEFFERIELLA B	8
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	72
HEXATOMA SP.	4
OLIGOCHAETA	4

09B-10Q	
BAETIS TRICAUDAT	8
EPHEMERELLA INFR	496
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	64
PARALEPTOPHL MEM	4
AMELETUS VELOX	16
CAPNIA-GROUP SP.	4
ISOPERLA FULVA	28
PTERONARCELLA BA	4
PTERONARCYS CALI	4
CHEUMATOPSYCHE	272
HYDROPSYCHE OCCI	184
SYMPHITOPS COCKE	76
HYDROPTILA SP.	140
LEPIDOSTOMA SP.A	4
OECETIS SP. A	24
PSYCHOMYIA FLAVI	36
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	20
MICROTENDIPES SP	4
PHAENOPSECTRA SP	4
TANYTARSUS SP. B	24
CRICOTOPUS SP. B	4
EUKIEFFERIELLA B	4
ORTHOCLADIUS OBU	44
WIEDEMANNIA SP.	4

Table 16. Continued

10C-10Q	
BAETIS INSIGNIFI	28
BAETIS TRICAUDAT	44
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	192
RHITHROGENA HAGE	28
PARALEPTOPHL MEM	4
CLAASSENI SABULO	8
ISOPERLA FULVA	20
SKWALA PARALLELA	4
PTERONARCELLA BA	8
TAENIONEMA PACIF	4
BRACHYCENTRUS OC	12
PROTOPTILA SP.	4
ARCTOPSYCHE GRAN	16
CHEUMATOPSYCHE	364
HYDROPSYCHE OCCI	272
SYMPHITOPS COCKE	80
SYMPHITOPS SLOSS	4
HYDROPTILA SP.	460
LEPIDOSTOMA SP.A	4
PSYCHOMYIA FLAVI	32
PARARGYRACTIS SP	60
OPTIOSERVUS SPP.	184
ZAITZEVIA PARVUL	44
MICROPSECTR SP.A	12
POLYPEDILUM SP.A	4
TANYTARSUS SP. B	4
CRICOTOPUS SP. B	24
EUKIEFFERIELLA B	156
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	12
THIENEMANIELL SP	4
SIMULIUM SP.	4
ANTOCHA SP.	4
OLIGOCHAETA LUMB	8

10D-10Q	
BAETIS INSIGNIFI	16
BAETIS TRICAUDAT	36
DRUNELLA GRANDIS	8
EPHEMERELLA INFR	296
HEPTAGENIA SOLIT	16
RHITHROGENA HAGE	92
PARALEPTOPHL MEM	12
AMELETUS VELOX	4
CLAASSENI SABULO	36
ISOPERLA FULVA	24
SKWALA PARALLELA	8
PTERONARCELLA BA	20
TAENIONEMA PACIF	4
BRACHYCENTRUS OC	16
ARCTOPSYCHE GRAN	24
CHEUMATOPSYCHE	468
HYDROPSYCHE OCCI	520
SYMPHITOPS COCKE	128
HYDROPTILA SP.	296
PSYCHOMYIA FLAVI	8
PARARGYRACTIS SP	24
OPTIOSERVUS SPP.	188
ZAITZEVIA PARVUL	92
ATHERIX VARIEGAT	4
MICROPSECTR SP.A	20
MICROTENDIPES SP	4
POLYPEDILUM SP.A	4
TANYTARSUS SP. B	4
CRICOTOPUS SP. B	24
EUKIEFFERIELLA B	52
EUKIEFFERIELLA E	12
HETEROTRISSOCLAD	8
ORTHOCLADIUS OBU	8
ABLABESMYIA SP.	4
CHELIFERA SP.	12
WIEDEMANNIA SP.	8
SIMULIUM SP.	16
ANTOCHA SP.	16
OLIGOCHAETA LUMB	4

11A-10Q		11B-10Q	
BAETIS INSIGNIFI	4	BAETIS INSIGNIFI	32
BAETIS TRICAUDAT	20	BAETIS TRICAUDAT	36
EPHEMERELLA INFR	748	EPHEMERELLA INFR	1080
HEPTAGENIA SOLIT	8	HEPTAGENIA SOLIT	12
RHITHROGENA HAGE	64	RHITHROGENA HAGE	152
AMELETUS VELOX	20	PARALEPTOPHL MEM	20
HESPEROPERLA PAC	4	AMELETUS VELOX	8
ISOGENOIDES ELON	20	CLAASSENI SABULO	8
ISOPERLA FULVA	32	ISOGENOIDES ELON	8
PTERONARCELLA BA	4	ISOPERLA FULVA	28
ARCTOPSYCHE GRAN	8	PTERONARCELLA BA	4
CHEUMATOPSYCHE	84	PTERONARCYS CALI	4
HYDROPSYCHE OCCI	364	ARCTOPSYCHE GRAN	16
SYMPHITOPS COCKE	16	CHEUMATOPSYCHE	32
SYMPHITOPS SLOSS	8	HYDROPSYCHE OCCI	408
HYDROPTILA SP.	504	SYMPHITOPS COCKE	16
OPTIOSERVUS SPP.	8	SYMPHITOPS SLOSS	8
ZAITZEVIA PARVUL	16	HYDROPTILA SP.	840
ATHERIX VARIEGAT	32	LEPIDOSTOMA SP.A	8
MICROPSECTR SP.A	8	OPTIOSERVUS SPP.	16
MICROTENDIPES SP	108	ZAITZEVIA PARVUL	28
POLYPEDILUM SP.A	8	ATHERIX VARIEGAT	40
CRICOTOPUS SP. B	56	MICROPSECTR SP.A	12
DIAMESA SP. B	4	MICROTENDIPES SP	48
EUKIEFFERIELLA B	24	TANYTARSUS SP. B	8
EUKIEFFERIELLA E	4	CRICOTOPUS SP. B	64
EUKIEFFERIELLA H	12	EUKIEFFERIELLA B	4
ORTHOCLADIUS OBU	72	EUKIEFFERIELLA E	8
HEXATOMA SP.	12	ORTHOCLADIUS B	8
OLIGOCHAETA	4	ORTHOCLADIUS OBU	76
		WIEDEMANNIA SP.	8
		HEXATOMA SP.	4

Table 16. Continued

11C-10Q		11D-10Q	
BAETIS INSIGNIFI	12	BAETIS INSIGNIFI	20
BAETIS TRICAUDAT	8	BAETIS TRICAUDAT	4
EPHEMERELLA INFR	708	EPHEMERELLA INFR	660
RHITHROGENA HAGE	112	HEPTAGENIA SOLIT	4
PARALEPTOPHL MEM	8	RHITHROGENA HAGE	64
AMELETUS VELOX	8	PARALEPTOPHL MEM	16
ZAPADA CINCTIPES	4	AMELETUS VELOX	28
ISOGENOIDES ELON	8	CLAASSENI SABULO	8
ISOPERLA FULVA	24	ISOGENOIDES ELON	8
ISOPERLA QUINQUE	4	ISOPERLA FULVA	16
SKWALA PARALLELA	4	ISOPERLA QUINQUE	4
PTERONARCELLA BA	8	SKWALA PARALLELA	4
ARCTOPSYCHE GRAN	24	TAENIONEMA PACIF	4
CHEUMATOPSYCHE	104	ARCTOPSYCHE GRAN	12
HYDROPSYCHE OCCI	704	CHEUMATOPSYCHE	112
SYMPHITOPS COCKE	36	HYDROPSYCHE OCCI	260
HYDROPTILA SP.	384	SYMPHITOPS COCKE	20
LEPIDOSTOMA SP.A	4	HYDROPTILA SP.	516
PSYCHOMYIA FLAVI	8	LEPIDOSTOMA SP.A	4
OPTIOSERVUS SPP.	32	PARARGYRACTIS SP	4
ZAITZEVIA PARVUL	28	OPTIOSERVUS SPP.	16
ATHERIX VARIEGAT	28	ZAITZEVIA PARVUL	16
MICROPSECTR SP.A	24	ATHERIX VARIEGAT	8
MICROTENDIPES SP	60	MICROPSECTR SP.A	8
POLYPEDILUM SP.A	4	MICROTENDIPES SP	160
TANYTARSUS SP. B	16	TANYTARSUS SP. B	12
CRICOTOPUS SP. B	88	PAGASTIA SP.	4
EUKIEFFERIELLA B	28	CRICOTOPUS SP. B	76
EUKIEFFERIELLA E	24	EUKIEFFERIELLA B	8
ORTHOCLADIUS B	16	ORTHOCLADIUS B	20
ORTHOCLADIUS OBU	100	ORTHOCLADIUS OBU	104
ABLABESMYIA SP.	4	WIEDEMANNIA SP.	4
WIEDEMANNIA SP.	4	HEXATOMA SP.	16
HEXATOMA SP.	4	OLIGOCHAETA	4

Table 16. Continued

13A-10Q	
BAETIS INSIGNIFI	4
BAETIS TRICAUDAT	8
EPHEMERELLA INFR	200
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	24
PARALEPTOPHL MEM	4
CAPNIA-GROUP SP.	4
ISOGENOIDES ELON	16
ISOPERLA FULVA	8
SKWALA PARALLELA	8
PTERONARCELLA BA	4
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	84
HYDROPSYCHE OCCI	116
SYMPHITOPS COCKE	8
HYDROPTILA SP.	1044
ZUMATRICHIA NOTO	4
OECETIS SP. A	12
PSYCHOMYIA FLAVI	4
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	8
ATHERIX VARIEGAT	4
CRYPTOCHIRONOMUS	4
MICROTENDIPES SP	568
DIAMESA SP. B	12
CRICOTOPUS SP. B	16
EUKIEFFERIELLA B	4
ORTHOCLADIUS OBU	40
ABLABESMYIA SP.	4
OLIGOCHAETA	16
OLIGOCHAETA LUMB	4

13B-10Q	
BAETIS INSIGNIFI	4
EPHEMERELLA INFR	136
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	4
PARALEPTOPHL MEM	8
AMELETUS VELOX	16
PROSTOIA BESAMET	4
ISOGENOIDES ELON	4
SKWALA PARALLELA	4
CHEUMATOPSYCHE	36
HYDROPSYCHE OCCI	4
HYDROPTILA SP.	908
MICROPSECTR SP.A	8
MICROTENDIPES SP	388
PHAENOPSECTRA SP	28
TANYTARSUS SP. B	12
DIAMESA SP. B	16
DIAMESA SP. C	4
CRICOTOPUS SP. B	28
EUKIEFFERIELLA B	4
ORTHOCLADIUS OBU	80
HEXATOMA SP.	4
OLIGOCHAETA	44

Table 16. Continued

13C-10Q	
BAETIS INSIGNIFI	4
EPHEMERELLA INFR	268
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	4
STENONEMA SP.	4
PARALEPTOPHL MEM	8
AMELETUS VELOX	8
CULTUS PILATUS	4
ISOGENOIDES ELON	12
ISOPERLA FULVA	4
CHEUMATOPSYCHE	52
HYDROPSYCHE OCCI	44
SYMPHITOPS COCKE	4
HYDROPTILA SP.	1196
OECETIS SP. A	8
PSYCHOMYIA FLAVI	4
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	16
MICROPSECTR SP.A	8
MICROTENDIPES SP	632
PHAENOPSECTRA SP	12
TANYTARSUS SP. B	8
DIAMESA SP. B	8
DIAMESA SP. C	4
CRICOTOPUS SP. B	32
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	28
ABLABESMYIA SP.	4
TIPULA SP.	4
OLIGOCHAETA	20

13D-10Q	
BAETIS INSIGNIFI	4
EPHEMERELLA INFR	180
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	28
AMELETUS VELOX	20
CAPNIA-GROUP SP.	8
ISOGENOIDES ELON	8
ISOPERLA FULVA	4
PTERONARCELLA BA	4
CHEUMATOPSYCHE	68
HYDROPSYCHE OCCI	8
HYDROPTILA SP.	1092
OECETIS SP. A	16
PSYCHOMYIA FLAVI	8
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	8
MICROPSECTR SP.A	8
MICROTENDIPES SP	428
PHAENOPSECTRA SP	4
TANYTARSUS SP. B	20
DIAMESA SP. B	12
DIAMESA SP. C	4
CRICOTOPUS SP. B	48
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	60
THIENEMANIELL SP	4
CHELIFERA SP.	4
HEXATOMA SP.	4
OLIGOCHAETA	20

Table 16. Continued

14A-10Q	
BAETIS INSIGNIFI	8
EPHEMERELLA INFR	396
RHITHROGENA HAGE	12
PARALEPTOPHL MEM	4
ISOGENOIDES ELON	4
ISOPERLA FULVA	8
SKWALA PARALLELA	4
CHEUMATOPSYCHE	276
HYDROPSYCHE OCCI	256
SYMPHITOPS COCKE	4
HYDROPTILA SP.	480
CERACLEA SP.	4
OECETIS SP. A	4
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	4
ATHERIX VARIEGAT	8
MICROPSECTR SP.A	20
MICROTENDIPES SP	224
PHAENOPSECTRA SP	4
CRICOTOPUS SP. B	16
EUKIEFFERIELLA B	12
ORTHOCLADIUS OBU	20
SYNORTHOCLADIUS	4
HYALELLA AZTECA	4

14B-10Q	
BAETIS TRICAUDAT	12
EPHEMERELLA INFR	72
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	28
PARALEPTOPHL MEM	4
ISOPERLA FULVA	4
TAENIONEMA PACIF	4
CHEUMATOPSYCHE	24
HYDROPSYCHE OCCI	24
HYDROPTILA SP.	612
OPTIOSERVUS SPP.	8
MICROPSECTR SP.A	8
MICROTENDIPES SP	148
PARACLADOPE SP.A	4
TANYTARSUS SP. B	8
CRICOTOPUS SP. B	32
HETEROTRISSOCLAD	4
ORTHOCLADIUS OBU	64
THIENEMANIELL SP	4
WIEDEMANNIA SP.	4
SIMULIUM SP.	4
HEXATOMA SP.	4
HYALELLA AZTECA	8
OLIGOCHAETA	80

14C-10Q	
BAETIS TRICAUDAT	8
CAENIS SIMULANS	4
EPHEMERELLA INFR	484
HEPTAGENIA SOLIT	36
RHITHROGENA HAGE	24
PARALEPTOPHL MEM	8
AMELETUS VELOX	4
CLAASSENI SABULO	4
ISOPERLA FULVA	8
SKWALA PARALLELA	4
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	416
HYDROPSYCHE OCCI	300
SYMPHITOPS COCKE	4
HYDROPTILA SP.	440
OECETIS SP. A	16
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	12
ATHERIX VARIEGAT	4
MICROPSECTR SP.A	16
MICROTENDIPES SP	268
PHAENOPSECTRA SP	4
STICTOCHIRONO SP	4
CRICOTOPUS SP. B	16
EUKIEFFERIELLA E	4
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	36
ABLABESMYIA SP.	8
GYRAULUS SP.	4
OLIGOCHAETA	68
OLIGOCHAETA LUMB	4

14D-10Q	
BAETIS INSIGNIFI	24
CAENIS SIMULANS	4
EPHEMERELLA INFR	496
HEPTAGENIA SOLIT	16
RHITHROGENA HAGE	12
PARALEPTOPHL MEM	20
ISOGENOIDES ELON	4
ISOPERLA FULVA	24
PTERONARCELLA BA	4
CHEUMATOPSYCHE	284
HYDROPSYCHE OCCI	348
SYMPHITOPS COCKE	8
HYDROPTILA SP.	780
OECETIS SP. A	4
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	8
ATHERIX VARIEGAT	12
MICROPSECTR SP.A	4
MICROTENDIPES SP	188
TANYTARSUS SP. B	8
CRICOTOPUS SP. B	24
EUKIEFFERIELLA H	4
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	44
ABLABESMYIA SP.	4
HEXATOMA SP.	4
HYALELLA AZTECA	4
OLIGOCHAETA	80

Table 16. Continued

15A-10Q		15B-10Q	
BAETIS INSIGNIFI	20	BAETIS INSIGNIFI	36
BAETIS TRICAUDAT	36	BAETIS TRICAUDAT	4
EPHEMERELLA INFR	2748	EPHEMERELLA INFR	588
RHITHROGENA HAGE	268	RHITHROGENA HAGE	64
PARALEPTOPHL MEM	28	AMELETUS VELOX	12
AMELETUS VELOX	20	CLAASSENI SABULO	16
CLAASSENI SABULO	24	ISOGENOIDES ELON	8
ISOGENOIDES ELON	20	PTERONARCELLA BA	16
ISOPERLA FULVA	84	TAENIONEMA PACIF	4
ISOPERLA QUINQUE	4	CHEUMATOPSYCHE	72
SKWALA PARALLELA	8	HYDROPSYCHE OCCI	184
ARCTOPSYCHE GRAN	4	SYMPHITOPS COCKE	4
CHEUMATOPSYCHE	420	HYDROPTILA SP.	388
HYDROPSYCHE OCCI	1776	OECETIS SP. A	12
SYMPHITOPS COCKE	4	OPTIOSERVUS SPP.	12
HYDROPTILA SP.	1204	MICROPSECTR SP.A	8
OPTIOSERVUS SPP.	60	MICROTENDIPES SP	72
ZAITZEVIA PARVUL	44	POLYPEDILUM SP.A	4
ATHERIX VARIEGAT	8	TANYTARSUS SP. B	4
MICROPSECTR SP.A	16	CRICOTOPUS SP. B	64
MICROTENDIPES SP	264	EUKIEFFERIELLA F	12
TANYTARSUS SP. B	4	EUKIEFFERIELLA H	16
CRICOTOPUS SP. B	112	ORTHOCLADIUS B	8
EUKIEFFERIELLA B	8	ORTHOCLADIUS OBU	36
EUKIEFFERIELLA E	12	PSECTROCLADIUS B	4
EUKIEFFERIELLA H	8	WIEDEMANNIA SP.	4
ORTHOCLADIUS B	4	HEXATOMA SP.	8
ORTHOCLADIUS OBU	48		
SIMULIUM SP.	8		
TIPULA SP.	4		

15C-10Q	
BAETIS INSIGNIFI	12
BAETIS TRICAUDAT	4
EPHEMERELLA INFR	1228
HEPTAGENIA SOLIT	40
RHITHROGENA HAGE	232
PARALEPTOPHL MEM	20
AMELETUS VELOX	56
TRICORYTHODES MI	4
CAPNIA-GROUP SP.	4
CLAASSENI SABULO	12
ISOGENOIDES ELON	16
ISOPERLA FULVA	32
PTERONARCELLA BA	8
ARCTOPSYCHE GRAJ	4
CHEUMATOPSYCHE	176
HYDROPSYCHE OCCI	208
SYMPHITOPS COCKE	4
HYDROPTILA SP.	788
OECETIS SP. A	4
OPTIOSERVUS SPP.	36
MICROPSECTR SP.A	12
MICROTENDIPES SP	308
POLYPEDILUM SP.A	4
CRICOTOPUS SP. B	40
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	4
EUKIEFFERIELLA H	12
ORTHOCLADIUS OBU	48
ABLABESMYIA SP.	4

15D-10Q	
BAETIS INSIGNIFI	20
BAETIS TRICAUDAT	16
EPHEMERELLA INFR	868
RHITHROGENA HAGE	136
PARALEPTOPHL MEM	4
AMELETUS VELOX	32
CAPNIA-GROUP SP.	12
CLAASSENI SABULO	12
CULTUS PILATUS	4
ISOGENOIDES ELON	12
ISOPERLA FULVA	12
PTERONARCELLA BA	8
CHEUMATOPSYCHE	140
HYDROPSYCHE OCCI	668
SYMPHITOPS COCKE	4
HYDROPTILA SP.	256
OPTIOSERVUS SPP.	32
ZAITZEVIA PARVUL	32
CLADOTANYTA SP.A	4
MICROTENDIPES SP	32
POLYPEDILUM SP.A	4
TANYTARSUS SP. B	8
DIAMESA SP. B	16
CRICOTOPUS SP. B	76
EUKIEFFERIELLA B	16
EUKIEFFERIELLA E	4
EUKIEFFERIELLA F	4
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	40
WIEDEMANNIA SP.	4
SIMULIUM SP.	16
HEXATOMA SP.	12
OLIGOCHAETA	4

Table 16. Continued

19A-10H		19B-10H	
BAETIS INSIGNIFI	4	BAETIS INSIGNIFI	6
BAETIS TRICAUDAT	24	BAETIS TRICAUDAT	52
EPHEMERELLA INFR	236	DRUNELLA GR INGE	2
HEPTAGENIA SOLIT	6	EPHEMERELLA INFR	532
RHITHROGENA HAGE	12	HEPTAGENIA SOLIT	24
PARALEPTOPHL MEM	6	RHITHROGENA HAGE	14
AMELETUS VELOX	4	PARALEPTOPHL MEM	26
ISOGENOIDES ELON	6	ISOGENOIDES ELON	8
ISOPERLA FULVA	6	ISOPERLA FULVA	8
SKWALA PARALLELA	2	BRACHYCENTRUS OC	4
BRACHYCENTRUS OC	2	ARCTOPSYCHE GRAN	6
CHEUMATOPSYCHE	54	CHEUMATOPSYCHE	196
HYDROPSYCHE OCCI	90	HYDROPSYCHE OCCI	136
SYMPHITOPS COCKE	8	SYMPHITOPS COCKE	32
HYDROPTILA SP.	150	SYMPHITOPS SLOSS	2
ZUMATRICHIA NOTO	2	HYDROPTILA SP.	202
PSYCHOMYIA FLAVI	48	LEUCOTRICHIA PIC	2
OPTIOSERVUS SPP.	2	PSYCHOMYIA FLAVI	46
ZAITZEVIA PARVUL	4	OPTIOSERVUS SPP.	6
MICROPSECTR SP.A	2	ZAITZEVIA PARVUL	4
MICROTENDIPES SP	30	MICROTENDIPES SP	54
POLYPEDILUM SP.A	4	CRICOTOPUS SP. B	14
CRICOTOPUS SP. B	8	EUKIEFFERIELLA B	2
EUKIEFFERIELLA B	8	EUKIEFFERIELLA F	2
EUKIEFFERIELLA F	2	EUKIEFFERIELLA H	6
EUKIEFFERIELLA H	2	ORTHOCLADIUS B	4
ORTHOCLADIUS B	8	ORTHOCLADIUS OBU	18
ORTHOCLADIUS OBU	18		

19C-10H	
BAETIS INSIGNIFI	2
BAETIS TRICAUDAT	42
DRUNELLA GR INGE	6
EPHEMERELLA INFR	400
HEPTAGENIA SOLIT	8
RHITHROGENA HAGE	12
PARALEPTOPHL MEM	14
ISOGENOIDES ELON	4
ISOPERLA FULVA	4
SKWALA PARALLELA	2
TAENIONEMA PACIF	2
CHEUMATOPSYCHE	108
HYDROPSYCHE OCCI	192
SYMPHITOPS COCKE	36
HYDROPTILA SP.	134
LEUCOTRICHIA PIC	2
OECETIS SP. A	4
PSYCHOMYIA FLAVI	34
OPTIOSERVUS SPP.	10
ZAITZEVIA PARVUL	12
MICROPSECTR SP.A	2
MICROTENDIPES SP	34
CRICOTOPUS SP. B	2
EUKIEFFERIELLA B	6
EUKIEFFERIELLA E	2
ORTHOCLADIUS OBU	8
SYNORTHOCLADIUS	2
OLIGOCHAETA LUMB	2

19D-10H	
BAETIS INSIGNIFI	2
BAETIS TRICAUDAT	50
EPHEMERELLA INFR	246
CINYGMULA SP.	2
HEPTAGENIA SOLIT	20
RHITHROGENA HAGE	16
PARALEPTOPHL MEM	30
AMELETUS VELOX	4
ISOGENOIDES ELON	6
ISOPERLA FULVA	6
SKWALA PARALLELA	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	100
HYDROPSYCHE OCCI	92
SYMPHITOPS COCKE	20
SYMPHITOPS SLOSS	2
HYDROPTILA SP.	150
OECETIS SP. A	6
PSYCHOMYIA FLAVI	22
PARARGYRACTIS SP	2
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	2
MICROTENDIPES SP	18
POLYPEDILUM SP.A	4
CRICOTOPUS SP. B	2
EUKIEFFERIELLA B	2
EUKIEFFERIELLA F	4
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	6

Table 16. Continued

21A-10H	
BAETIS INSIGNIFI	2
BAETIS TRICAUDAT	4
DRUNELLA GR INGE	4
EPHEMERELLA INFR	632
CINYGMULA SP.	8
HEPTAGENIA SOLIT	6
RHITHROGENA HAGE	8
PARALEPTOPHL MEM	30
AMELETUS VELOX	2
CAPNIA-GROUP SP.	2
ISOPERLA FULVA	16
PTERONARCYS CALI	4
TAENIONEMA PACIF	4
BRACHYCENTRUS OC	6
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	70
HYDROPSYCHE OCCI	88
SYMPHITOPS COCKE	26
SYMPHITOPS SLOSS	2
HYDROPTILA SP.	198
LEPIDOSTOMA SP.A	2
CERACLEA SP.	8
OECETIS SP. A	2
PSYCHOMYIA FLAVI	10
ZAITZEVIA PARVUL	16
MICROTENDIPES SP	36
POLYPEDILUM SP.A	2
EUKIEFFERIELLA E	2
EUKIEFFERIELLA F	2
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	6
ANTOCHA SP.	2
OLIGOCHAETA LUMB	6

21B-10H	
BAETIS TRICAUDAT	4
DRUNELLA DODDSI	2
DRUNELLA GR INGE	2
EPHEMERELLA INFR	642
CINYGMULA SP.	2
HEPTAGENIA SOLIT	14
RHITHROGENA HAGE	12
CLAASSENI SABULO	2
HESPEROPERLA PAC	4
ISOGENOIDES ELON	2
ISOPERLA FULVA	12
BRACHYCENTRUS OC	6
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	112
HYDROPSYCHE OCCI	90
SYMPHITOPS COCKE	28
SYMPHITOPS SLOSS	6
HYDROPTILA SP.	186
LEPIDOSTOMA SP.A	2
CERACLEA SP.	2
OECETIS SP. A	6
PSYCHOMYIA FLAVI	22
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	12
MICROTENDIPES SP	168
CRICOTOPUS SP. B	2
ORTHOCLADIUS OBU	4
ABLABESMYIA SP.	4
OLIGOCHAETA LUMB	2

Table 16. Continued

21C-10H	
EPHEMERELLA INFR	694
CINYGMULA SP.	2
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	2
PARALEPTOPHL MEM	14
AMELETUS VELOX	8
CAPNIA-GROUP SP.	2
CLAASSENI SABULO	8
ISOGENOIDES ELON	4
ISOPERLA FULVA	10
TAENIONEMA PACIF	8
ARCTOPSYCHE GRAN	6
CHEUMATOPSYCHE	130
HYDROPSYCHE OCCI	9[illegible]
SYMPHITOPS COCKE	22
HYDROPTILA SP.	164
LEPIDOSTOMA SP.A	2
CERACLEA SP.	10
PSYCHOMYIA FLAVI	20
OPTIOSERVUS SPP.	20
ZAITZEVIA PARVUL	14
MICROTENDIPES SP	28
PHAENOPSECTRA SP	2
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	8

21D-10H	
DRUNELLA GR INGE	4
EPHEMERELLA INFR	63[illegible]
EPEORUS ALBERTAE	2
HEPTAGENIA SOLIT	10
RHITHROGENA HAGE	2
PARALEPTOPHL MEM	18
AMELETUS VELOX	10
CLAASSENI SABULO	10
ISOGENOIDES ELON	12
ISOPERLA FULVA	14
SKWALA PARALLELA	2
PTERONARCYS CALI	2
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	6
CHEUMATOPSYCHE	122
HYDROPSYCHE OCCI	40
SYMPHITOPS COCKE	26
HYDROPTILA SP.	12[illegible]
LEPIDOSTOMA SP.A	6
CERACLEA SP.	6
PSYCHOMYIA FLAVI	16
ZAITZEVIA PARVUL	6
MICROTENDIPES SP	50
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	6
OLIGOCHAETA LUMB	6
TURBELLARI	2

Table 16. Continued

23A-10	
BAETIS INSIGNIFI	4
BAETIS TRICAUDAT	1
EPHEMERELLA INFR	1
RHITHROGENA HAGE	1
STENONEMA SP.	2
AESHNA SP.	1
CHEUMATOPSYCHE	1
HYDROPTILA SP.	12
OXYETHIRA SP.	1
CERACLEA SP.	1
POLYCENTROPUS SP	1
PARARGYRACTIS SP	2
DUBIRAPHIA SP.	4
OPTIOSERVUS SPP.	1
GYRINUS SP.	2
DICROTENDIP SP.A	5
MICROPSECTR SP.A	2
TANYTARSUS SP. B	2
PAGASTIA SP.	1
CRICOTOPUS SP. B	10
EUKIEFFERIELLA F	3
ORTHOCLADIUS B	10
ORTHOCLADIUS OBU	8
PSECTROCLADIUS B	55
SYNORTHOCLADIUS	1
WIEDEMANNIA SP.	1
SIMULIUM SP.	1
HYALELLA AZTECA	30
GYRAULUS SP.	24
LYMNAEA SP.	3
PHYSA SP.	9
OLIGOCHAETA	5
OLIGOCHAETA LUMB	4
GLOSSIPHONIA SP	1
TURBELLARI	87

23B-10	
BAETIS INSIGNIFI	7
BAETIS TRICAUDAT	1
HYDROPTILA SP.	2
OXYETHIRA SP.	2
PARARGYRACTIS SP	1
DICROTENDIP SP.A	2
POTTHASTIA SP.	1
CORYNONEURA SP.	2
CRICOTOPUS SP. B	13
EUKIEFFERIELLA F	3
ORTHOCLADIUS B	13
ORTHOCLADIUS OBU	9
PSECTROCLADIUS B	18
SYNORTHOCLADIUS	1
ABLABESMYIA SP.	1
SIMULIUM SP.	2
HYALELLA AZTECA	10
GYRAULUS SP.	7
PHYSA SP.	4
OLIGOCHAETA	14
GLOSSIPHONIA SP	1
TURBELLARI	65

Table 16. Continued

23C-10		23D-10	
BAETIS INSIGNIFI	4	BAETIS INSIGNIFI	2
EPHEMERELLA INFR	1	BAETIS TRICAUDAT	1
STENONEMA SP.	1	RHITHROGENA HAGE	1
HYDROPTILA SP.	5	CHEUMATOPSYCHE	1
OXYETHIRA SP.	1	HYDROPTILA SP.	5
PARARGYRACTIS SP	2	OXYETHIRA SP.	1
ZAITZEVIA PARVUL	1	TRIAENODES SP.	1
DICROTENDIP SP.A	3	ZAITZEVIA PARVUL	1
PAGASTIA SP.	6	GYRINUS SP.	2
POTTHASTIA SP.	1	TANYTARSUS SP. B	1
CORYNONEURA SP.	1	DIAMESA SP. B	1
CRICOTOPUS SP. B	12	PAGASTIA SP.	11
EUKIEFFERIELLA F	6	CORYNONEURA SP.	1
ORTHOCLADIUS B	17	CRICOTOPUS SP. B	22
ORTHOCLADIUS OBU	8	EUKIEFFERIELLA F	6
PSECTROCLADIUS B	36	ORTHOCLADIUS B	22
SYNORTHOCLADIUS	1	ORTHOCLADIUS OBU	16
WIEDEMANNIA SP.	1	PSECTROCLADIUS B	33
SIMULIUM SP.	4	WIEDEMANNIA SP.	2
HYALELLA AZTECA	10	SIMULIUM SP.	2
GYRAULUS SP.	31	HYALELLA AZTECA	3
LYMNAEA SP.	2	LEBERTIA SP.	1
PHYSA SP.	13	GYRAULUS SP.	14
OLIGOCHAETA	14	LYMNAEA SP.	4
OLIGOCHAETA LUMB	2	PHYSA SP.	11
TURBELLARI	60	OLIGOCHAETA	19
		OLIGOCHAETA LUMB	8
		TURBELLARI	39

Table 16. Continued

24A-10

BAETIS INSIGNIFI	4
EPHEMERELLA INFR	1
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	4
STENONEMA SP.	34
OPHIOGOMPHUS SP.	1
CHEUMATOPSYCHE	15
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	4
CERACLEA SP.	2
OECETIS SP. A	1
OPTIOSERVUS SPP.	1
ZAITZEVIA PARVUL	1
MICROPSECTR SP.A	1
MICROTENDIPES SP	17
TANYTARSUS SP. B	1
PAGASTIA SP.	1
CRICOTOPUS SP. B	23
EUKIEFFERIELLA F	2
ORTHOCLADIUS B	7
ORTHOCLADIUS OBU	18
SIMULIUM SP.	32
LYMNAEA SP.	70
OLIGOCHAETA	2
TURBELLARI	4

24B-10

BAETIS INSIGNIFI	1
BAETIS TRICAUDAT	1
EPHEMERELLA INFR	1
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	8
STENONEMA SP.	24
CHEUMATOPSYCHE	26
HYDROPSYCHE OCCI	3
SYMPHITOPS COCKE	2
HYDROPTILA SP.	1
CERACLEA SP.	2
ZAITZEVIA PARVUL	2
MICROTENDIPES SP	9
DIAMESA SP. B	1
PAGASTIA SP.	2
CRICOTOPUS SP. B	58
EUKIEFFERIELLA F	5
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	13
SYNORTHOCLADIUS	1
SIMULIUM SP.	108
LYMNAEA SP.	61
OLIGOCHAETA LUMB	1
TURBELLARI	6

24C-10

BAETIS INSIGNIFI	1
EPHEMERELLA INFR	4
HEPTAGENIA SOLIT	1
RHITHROGENA HAGE	6
STENONEMA SP.	28
AMELETUS VELOX	1
GLOSSOSOMA SP.	1
CHEUMATOPSYCHE	14
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	6
CERACLEA SP.	5
OECETIS SP. A	1
OPTIOSERVUS SPP	2
ZAITZEVIA PARVUL	1
MICROTENDIPES SP	3
DIAMESA SP. B	2
CRICOTOPUS SP. B	78
EUKIEFFERIELLA F	4
ORTHOCLADIUS B	17
ORTHOCLADIUS OBU	20
SIMULIUM SP.	47
LYMNAEA SP.	52
OLIGOCHAETA LUMB	5
TURBELLARI	7

24D-10

BAETIS INSIGNIFI	2
EPHEMERELLA INFR	1
HEPTAGENIA SOLIT	5
RHITHROGENA HAGE	3
STENONEMA SP.	55
CHEUMATOPSYCHE	37
HYDROPSYCHE OCCI	5
SYMPHITOPS COCKE	2
HYDROPTILA SP.	1
CERACLEA SP.	18
OECETIS SP. A	1
ZAITZEVIA PARVUL	12
LENZIELLA SP.	1
MICROPSECTR SP.A	2
MICROTENDIPES SP	49
DIAMESA SP. B	2
CRICOTOPUS SP. B	36
EUKIEFFERIELLA F	2
EUKIEFFERIELLA H	1
ORTHOCLADIUS B	10
ORTHOCLADIUS OBU	15
WIEDEMANNIA SP.	1
SIMULIUM SP.	70
LYMNAEA SP.	61
OLIGOCHAETA LUMB	2
TURBELLARI	1

Table 16. Continued

25A-10H	
EPHEMERELLA INFR	4
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	2
STENONEMA SP.	306
CHEUMATOPSYCHE	92
SYMPHITOPS COCKE	6
HYDROPTILA SP.	104
CERACLEA SP.	60
PSYCHOMYIA FLAVI	28
PARARGYRACTIS SP	2
ZAITZEVIA PARVUL	6
DICROTENDIP SP.A	10
MICROTENDIPES SP	82
STENOCHIRONOM SP	2
CRICOTOPUS SP. B	8
ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	30
SYNORTHOCLADIUS	2
SIMULIUM SP.	6
SPERCHON SP.	2
GYRAULUS SP.	16
LYMNAEA SP.	12
PHYSA SP.	4
OLIGOCHAETA LUMB	4
TURBELLARI	2

25B-10H	
EPHEMERELLA INFR	6
HEPTAGENIA SOLIT	8
STENONEMA SP.	338
OPHIOGOMPHUS SP.	2
CHEUMATOPSYCHE	108
HYDROPSYCHE OCCI	2
SYMPHITOPS COCKE	4
HYDROPTILA SP.	50
CERACLEA SP.	20
PSYCHOMYIA FLAVI	8
ZAITZEVIA PARVUL	6
DICROTENDIP SP.A	2
MICROTENDIPES SP	52
TANYTARSUS SP. B	2
DIAMESA SP. B	2
CRICOTOPUS SP. B	14
EUKIEFFERIELLA B	4
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	42
SYNORTHOCLADIUS	2
SIMULIUM SP.	8
GYRAULUS SP.	24
LYMNAEA SP.	14
OLIGOCHAETA LUMB	8
TURBELLARI	2

25C-10H	
BAETIS INSIGNIFI	2
EPHEMERELLA INFR	8
HEPTAGENIA SOLIT	6
RHITHROGENA HAGE	2
STENONEMA SP.	356
OPHIOGOMPHUS SP.	4
CHEUMATOPSYCHE	332
HYDROPSYCHE OCCI	10
SYMPHITOPS COCKE	6
HYDROPTILA SP.	126
CERACLEA SP.	46
OECETIS SP. A	4
PSYCHOMYIA FLAVI	38
PARARGYRACTIS SP	8
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	2
DICROTENDIP SP.A	10
MICROTENDIPES SP	60
CRICOTOPUS SP. B	16
ORTHOCLADIUS B	10
ORTHOCLADIUS OBU	48
SIMULIUM SP.	12
LEBERTIA SP.	2
FERRISSIA SP.	8
GYRAULUS SP.	24
LYMNAEA SP.	16
PHYSA SP.	2
OLIGOCHAETA LUMB	10
TURBELLARI	2

25D-10H	
BAETIS INSIGNIFI	4
EPHEMERELLA INFR	4
HEPTAGENIA SOLIT	6
STENONEMA SP.	462
OPHIOGOMPHUS SP.	2
BRACHYCENTRUS OC	2
CHEUMATOPSYCHE	416
HYDROPSYCHE OCCI	2
SYMPHITOPS COCKE	10
HYDROPTILA SP.	62
CERACLEA SP.	44
OECETIS SP. A	2
PSYCHOMYIA FLAVI	14
PARARGYRACTIS SP	4
ZAITZEVIA PARVUL	10
DICROTENDIP SP.A	2
MICROTENDIPES SP	144
STENOCHIRONOM SP	4
TANYTARSUS SP. B	2
CRICOTOPUS SP. B	18
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	40
SIMULIUM SP.	34
FERRISSIA SP.	2
GYRAULUS SP.	22
LYMNAEA SP.	18
OLIGOCHAETA LUMB	6
TURBELLARI	2

27-11	
BAETIS INSIGNIFI	1
HEPTAGENIA SOLIT	1
STENONEMA SP.	11
CHEUMATOPSYCHE	57
HYDROPSYCHE SP.A	27
HYDROPSYCHE OCCI	5
SYMPHITOPS COCKE	6
HYDROPTILA SP.	7
ZUMATRICHIA NOTO	1
CERACLEA SP.	56
PSYCHOMYIA FLAVI	9
PARARGYRACTIS SP	10
ZAITZEVIA PARVUL	1
MICROTENDIPES SP	14
STENOCHIRONOM SP	1
DIAMESA SP. B	1
CRICOTOPUS SP. B	3
ORTHOCLADIUS B	1
ORTHOCLADIUS OBU	5
WIEDEMANNIA	2
FERRISSIA SP.	1
LYMNAEA SP.	1
TURBELLARI	3

Table 16. Deep Water Monitoring Stations - Petite Ponar Grab Samples

03-1-10	
CHIRONOMUS SP.	12
PHAENOPSECT SP.B	1
POLYPEDILUM SP.D	1
STICTOCHIRONO SP	1
TANYTARSUS SP. B	1
EUKIEFFERIELLA I	1
OLIGOCHAETA	25

03-2-10	
CHIRONOMUS SP.	12
PHAENOPSECTRA SP	1
PHAENOPSECT SP.B	1
POLYPEDILUM SP.D	3
STICTOCHIRONO SP	1
TANYTARSUS SP. B	1
OLIGOCHAETA	6

03-3-10	
CHIRONOMUS SP.	11
PHAENOPSECTRA SP	1
POLYPEDILUM SP.D	1
OLIGOCHAETA	1

26-1-10	
CRYPTOCHIRONOMUS	3
PHAENOPSECT SP.B	1
ORTHOCLADIUS OBH	1
PROCLADIUS SP. A	[illegible]
OLIGOCHAETA	433

26-2-10	
CERACLEA SP.	2
PSEUDOCHIRONOMUS	2

26-3-10	
CRYPTOCHIRONOMUS	7
PHAENOPSECT SP.B	5
POLYPEDILUM SP.D	18
OLIGOCHAETA	22

28A-1-10	
CHIRONOMUS SP.	19
PROCLADIUS SP. A	14
OLIGOCHAETA	225

28B-1-10	
CHIRONOMUS SP.	4
PROCLADIUS SP. A	1
OLIGOCHAETA	107

28A-2-10	
CHIRONOMUS SP.	9
PROCLADIUS SP. A	15
OLIGOCHAETA	191

28B-2-10	
CHIRONOMUS SP.	7
PROCLADIUS SP. A	[illegible]
OLIGOCHAETA	[illegible]

28A-3-10	
CHIRONOMUS SP.	10
PROCLADIUS SP. A	8
OLIGOCHAETA	139

28B-3-10	
CHIRONOMUS SP.	6
PROCLADIUS SP. A	4
OLIGOCHAETA	65

Table 16. Continued

30-1-10

OECETIS SP. B	4
PALPOMY-GP SP. A	6
CRYPTOCHIRONOMUS	3
PARACLADOPE SP.B	6
PARACLADOPE SP.C	1
PARALAUTERBORNIE	1
POLYPEDILUM SP.B	1
POLYPEDILUM SP.D	23
PSEUDOCHIRONOMUS	25
PROCLADIUS SP. A	2
ARRENURUS SP.	1
OLIGOCHAETA	22

30-3-10

NECTOPSYCHE SP.	2
OECETIS SP. B	1
PALPOMY-GP SP. A	7
CRYPTOCHIRONOMUS	4
PARACLADOPE SP.B	4
PARALAUTERBORNIE	1
POLYPEDILUM SP.B	2
POLYPEDILUM SP.D	24
PSEUDOCHIRONOMUS	22
PROCLADIUS SP. A	3
PISIDIUM SP.	1
OLIGOCHAETA	20

30-2-10

OPHIOGOMPHUS SP.	1
OECETIS SP. B	2
PALPOMY-GP SP. A	10
CRYPTOCHIRONOMUS	6
PARACLADOPE SP.B	1
PARALAUTERBORNIE	5
POLYPEDILUM SP.B	2
POLYPEDILUM SP.D	32
PSEUDOCHIRONOMUS	31
PROCLADIUS SP. A	5
OLIGOCHAETA	36

Table 16. Benthic Macroinvertebrate Sample Counts and Identifications
Spring 1985

Shallow Water Stations - Kick Samples

1/A-53	
BAETIS TRICAUDAT	204
EPHEMERELLA INFR	568
RHITHROGENA HAGE	36
CAPNIA-GROUP SP.	48
ALLOPERLA-GROUP	8
PROSTOIA BESAMET	116
CULTUS PILATUS	4
ISOGENOIDES ELON	4
ISOPERLA FULVA	20
ISOPERLA QUINQUE	8
TAENIONEMA PACIF	12
CHEUMATOPSYCHE	12
HYDROPSYCHE OCCI	32
HYDROPTILA SP.	24
LEPIDOSTOMA SP.A	40
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	12
ATHERIX VARIEGAT	4
MICROTENDIPES SP	4
PARACLADOPE SP.B	4
TANYTARSUS SP. B	12
DIAMESA SP. B	24
PAGASTIA SP.	8
CRICOTOPUS SP. B	228
EUKIEFFERIELLA B	56
EUKIEFFERIELLA E	4
EUKIEFFERIELLA I	4
ORTHOCLADIUS (EU	24
ORTHOCLADIUS B	32
ORTHOCLADIUS MAL	8
ORTHOCLADIUS OBU	208
TRISSOCLADIUS SP	8
SIMULIUM SP.	4
HEXATOMA SP.	4

1/B-53	
BAETIS TRICAUDAT	296
EPHEMERELLA INFR	916
RHITHROGENA HAGE	20
PARALEPTOPHL MEM	4
AMELETUS VELOX	4
CAPNIA-GROUP SP.	[illegible]
PROSTOIA BESAMET	216
CULTUS PILATUS	4
ISOPERLA FULVA	[illegible]
ISOPERLA QUINQUE	12
SKWALA PARALLELA	[illegible]
PTERONARCELLA BA	[illegible]
TAENIONEMA PACIF	4
BRACHYCENTRUS AM	
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	20
HYDROPSYCHE OCCI	112
HYDROPTILA SP.	[illegible]
LEPIDOSTOMA SP.A	32
OECETIS SP. A	8
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	[illegible]
ATHERIX VARIEGAT	8
POLYPEDILUM SP.A	4
DIAMESA SP. B	16
CRICOTOPUS SP. B	180
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	56
EUKIEFFERIELLA E	4
ORTHOCLADIUS (EU	24
ORTHOCLADIUS B	44
ORTHOCLADIUS OBU	96
TRISSOCLADIUS SP	4
SIMULIUM SP.	40

Table 16. Continued

1/C-53	
BAETIS TRICAUDAT	472
EPHEMERELLA INFR	564
RHITHROGENA HAGE	72
CAPNIA-GROUP SP.	96
PROSTOIA BESAMET	112
CULTUS PILATUS	16
ISOGENOIDES ELON	12
ISOPERLA FULVA	12
ISOPERLA QUINQUE	28
PTERONARCELLA BA	4
PTERONARCYS CALI	4
TAENIONEMA PACIF	16
BRACHYCENTRUS AM	8
CHEUMATOPSYCHE	8
HYDROPSYCHE OCCI	40
SYMPHITOPS SLOSS	4
LEPIDOSTOMA SP.A	8
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	8
PARACLADOPE SP.B	8
PHAENOPSECTRA SP	4
TANYTARSUS SP. B	4
DIAMESA SP. B	20
CRICOTOPUS SP. B	196
EUKIEFFERIELLA A	24
EUKIEFFERIELLA B	88
EUKIEFFERIELLA E	12
HETEROTRISSOCLAD	4
ORTHOCLADIUS (EU	32
ORTHOCLADIUS B	20
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	104
SIMULIUM SP.	12
HEXATOMA SP.	12
TIPULA SP.	4

1/D-53	
BAETIS TRICAUDAT	180
EPHEMERELLA INFR	956
RHITHROGENA HAGE	32
CAPNIA-GROUP SP.	24
ALLOPERLA-GROUP	8
PROSTOIA BESAMET	128
CULTUS PILATUS	12
ISOGENOIDES ELON	4
ISOPERLA FULVA	16
ISOPERLA QUINQUE	20
PTERONARCELLA BA	20
TAENIONEMA PACIF	4
BRACHYCENTRUS AM	16
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	12
HYDROPSYCHE OCCI	156
SYMPHITOPS COCKE	36
SYMPHITOPS SLOSS	20
HYDROPTILA SP.	8
LEPIDOSTOMA SP.A	44
OPTIOSERVUS SPP.	20
ZAITZEVIA PARVUL	4
MICROPSECTR SP.A	8
TANYTARSUS SP. B	8
DIAMESA SP. B	20
PAGASTIA SP.	4
CRICOTOPUS SP. B	156
EUKIEFFERIELLA A	24
EUKIEFFERIELLA B	168
EUKIEFFERIELLA E	8
ORTHOCLADIUS (EU	32
ORTHOCLADIUS B	40
ORTHOCLADIUS MAL	12
ORTHOCLADIUS OBU	172
THIENEMANIELL SP	4

Table 16. Continued

27A-53*		27B-53	
CAPNIA-GROUP SP.	4	BAETIS TRICAUDAT	[illegible]
ALLOPERLA-GROUP	64	EPHEMERELLA INFR	[illegible]
PROSTOIA BESAMET	48	EPEORUS ALBERTAE	4
CALINEURIA CALIF	28	RHITHROGENA HAGE	[illegible]
CLAASSENI SABULO	8	PARALEPTOPHL MEM	16
CULTUS PILATUS	28	AMELETUS VELOX	4
ISOGENOIDES ELON	4	CAPNIA-GROUP SP.	20
ISOPERLA FULVA	16	ALLOPERLA-GROUP	8
ARCTOPSYCHE GRAN	4	PROSTOIA BESAMET	44
CHEUMATOPSYCHE	44	CALINEURIA CALIF	12
HYDROPSYCHE OCCI	12	CLAASSENI SABULO	4
SYMPHITOPS SLOSS	24	CULTUS PILATUS	16
LEPIDOSTOMA SP.A	16	ISOPERLA FULVA	72
OECETIS SP. A	4	CHEUMATOPSYCHE	4
MICROPSECTR SP.C	204	HYDROPSYCHE OCCI	4
DIAMESA SP. B	164	SYMPHITOPS COCKE	[illegible]
PAGASTIA SP.	4	SYMPHITOPS SLOSS	[illegible]
CRICOTOPUS SP. B	184	OPTIOSERVUS SPP.	4
EUKIEFFERIELLA A	28	DIAMESA SP. B	[illegible]
EUKIEFFERIELLA B	36	CRICOTOPUS SP. B	100
EUKIEFFERIELLA E	8	EUKIEFFERIELLA A	[illegible]
ORTHOCLADIUS (EU	92	EUKIEFFERIELLA B	4
ORTHOCLADIUS B	4	ORTHOCLADIUS (EU	44
ORTHOCLADIUS MAL	256	ORTHOCLADIUS MAL	32
ORTHOCLADIUS OBU	20	ORTHOCLADIUS OBU	4
		SIMULIUM SP.	68

*Mayflies/misc. counts missing; lost in shipment.

2/C-53*	
CAPNIA-GROUP SP.	12
ALLOPERLA-GROUP	24
PROSTOIA BESAMET	48
CLAASSENI SABULO	4
CULTUS PILATUS	4
ISOPERLA FULVA	16
TAENIOJEMA PACIF	4
CHEUMATOPSYCHE	4
SYMPHITOPS SLOSS	4
HYDROPTILA SP.	24
LEPIDOSTOMA SP.A	4

*Mayflies/misc. and midge counts missing; lost in shipment.

2/D-53	
BAETIS TRICAUDAT	96
CAUDATELLA HYSTR	8
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	136
EPEORUS ALBERTAE	4
RHITHROGENA HAGE	164
PARALEPTOPHL MEM	12
AMELETUS VELOX	12
CAPNIA-GROUP SP.	8
ALLOPERLA-GROUP	44
PROSTOIA BESAMET	20
CALINEURIA CALIF	4
CLAASSENI SABULO	12
HESPEROPERLA PAC	4
CULTUS PILATUS	4
ISOPERLA FULVA	56
PTERONARCYS CALI	20
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	8
SYMPHITOPS SLOSS	48
HYDROPTILA SP.	4
PSYCHOMYIA FLAVI	4
OREODYTES SCITIL	4
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	4
MICROPSECTR SP.C	32
PHAENOPSECTRA SP	4
DIAMESA SP. B	196
CRICOTOPUS SP. B	192
EUKIEFFERIELLA A	24
EUKIEFFERIELLA B	36
ORTHOCLADIUS (EU	144
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	272
ORTHOCLADIUS OBU	24
DOLICHOPODIDAE	4
SIMULIUM SP.	36
ANTOCHA SP.	4
HEXATOMA SP.	8

4/A-53	
BAETIS TRICAUDAT	86
EPHEMERELLA INFR	10
RHITHROGENA HAGE	2
CAPNIA-GROUP SP.	88
ISOPERLA FULVA	8
TAENIONEMA PACIF	14
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	24
HYDROPSYCHE OCCI	108
SYMPHITOPS COCKE	54
SYMPHITOPS SLOSS	2
HYDROPTILA SP.	44
PARARGYRACTIS SP	2
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	6
MICROTENDIPES SP	20
DIAMESA SP. B	4
CRICOTOPUS SP. B	12
EUKIEFFERIELLA A	6
EUKIEFFERIELLA B	18
EUKIEFFERIELLA E	2
EUKIEFFERIELLA F	2
ORTHOCLADIUS (EU	8
ORTHOCLADIUS OBU	14
WIEDEMANNIA SP.	4
SIMULIUM SP.	82

4/B-53	
BAETIS TRICAUDAT	174
EPHEMERELLA INFR	10
RHITHROGENA HAGE	6
PARALEPTOPHL MEN	2
AMELETUS VELOX	2
CAPNIA-GROUP SP.	96
ALLOPERLA-GROUP	2
ISOGENOIDES ELON	2
ISOPERLA FULVA	10
PTERONARCELLA BA	2
TAENIONEMA PACIF	22
CHEUMATOPSYCHE	26
HYDROPSYCHE OCCI	46
SYMPHITOPS COCKE	10
SYMPHITOPS SLOSS	6
HYDROPTILA SP.	46
PSYCHOMYIA FLAVI	18
PARARGYRACTIS SP	6
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	6
ZAITZEVIA PARVUL	2
MICROTENDIPES SP	16
DIAMESA SP. B	12
CRICOTOPUS SP. B	30
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	2
ORTHOCLADIUS (EU	10
ORTHOCLADIUS HAL	2
ORTHOCLADIUS OBU	32
SIMULIUM SP.	8

Table 16. Continued

4/C-53	
BAETIS TRICAUDAT	84
RHITHROGENA HAGE	4
CAPNIA-GROUP SP.	64
ALLOPERLA-GROUP	8
PROSTOIA BESAMET	2
ISOPERLA FULVA	2
TAENIONEMA PACIF	4
CHEUMATOPSYCHE	70
HYDROPSYCHE OCCI	164
SYMPHITOPS COCKE	22
SYMPHITOPS SLOSS	10
HYDROPTILA SP.	116
PSYCHOMYIA FLAVI	6
OPTIOSERVUS SPP.	18
MICROTENDIPES SP	46
PARACLADOPE SP.C	2
DIAMESA SP. B	6
CRICOTOPUS SP. B	24
EUKIEFFERIELLA A	6
EUKIEFFERIELLA B	12
ORTHOCLADIUS (EU	14
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	24
TRISSOCLADIUS SP	2
SIMULIUM SP.	48

4/D-53	
BAETIS TRICAUDAT	216
EPHEMERELLA INFR	14
RHITHROGENA HAGE	10
CAPNIA-GROUP SP.	126
ALLOPERLA-GROUP	2
PROSTOIA BESAMET	2
HESPEROPERLA PAC	2
CULTUS PILATUS	2
ISOGENOIDES ELON	4
ISOPERLA FULVA	8
PTERONARCELLA BA	8
PTERONARCYS CALI	2
TAENIONEMA PACIF	28
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	20
HYDROPSYCHE OCCI	60
SYMPHITOPS COCKE	14
HYDROPTILA SP.	28
PSYCHOMYIA FLAVI	14
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	6
MICROTENDIPES SP	20
DIAMESA SP. B	24
PAGASTIA SP.	2
CRICOTOPUS SP. B	80
EUKIEFFERIELLA B	22
HETEROTRISSOCLAD	2
ORTHOCLADIUS (EU	50
ORTHOCLADIUS OBU	24
TRISSOCLADIUS SP	2
SIMULIUM SP.	22

Table 16. Continued

5/A-53	
BAETIS TRICAUDAT	152
EPHEMERELLA INFR	96
RHITHROGENA HAGE	38
PARALEPTOPHL MEM	2
CAPNIA-GROUP SP.	40
PROSTOIA BESAMET	10
CULTUS PILATUS	2
ISOGENOIDES ELON	10
ISOPERLA FULVA	36
ISOPERLA QUINQUE	14
PTERONARCELLA BA	2
TAENIONEMA PACIF	36
CHEUMATOPSYCHE	2
HYDROPSYCHE OCCI	8
HYDROPTILA SP.	14
PSYCHOMYIA FLAVI	8
TANYTARSUS SP. B	2
DIAMESA SP. B	6
CRICOTOPUS SP. B	26
EUKIEFFERIELLA A	6
EUKIEFFERIELLA B	8
EUKIEFFERIELLA E	4
HETEROTRISSOCLAD	4
ORTHOCLADIUS (EU	14
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	20
SIMULIUM SP.	6

5/B-53	
BAETIS TRICAUDAT	238
EPHEMERELLA INFR	84
RHITHROGENA HAGE	54
PARALEPTOPHL MEM	6
AMELETUS VELOX	2
CAPNIA-GROUP SP.	94
ALLOPERLA-GROUP	2
PROSTOIA BESAMET	2
CULTUS PILATUS	4
ISOPERLA FULVA	16
ISOPERLA QUINQUE	[illegible]
TAENIONEMA PACIF	[illegible]
CHEUMATOPSYCHE	[illegible]
HYDROPSYCHE OCCI	[illegible]
HYDROPTILA SP.	[illegible]
OPTIOSERVUS SPP.	2
CRICOTOPUS SP. B	[illegible]
EUKIEFFERIELLA B	3
ORTHOCLADIUS (EU	[illegible]
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	4
SIMULIUM SP.	74
OLIGOCHAETA	2

Table 16. Continued

5/C-53	
BAETIS TRICAUDAT	158
EPHEMERELLA INFR	90
RHITHROGENA HAGE	28
PARALEPTOPHL MEM	8
AMELETUS VELOX	2
CAPNIA-GROUP SP.	88
ALLOPERLA-GROUP	4
PROSTOIA BESAMET	2
CULTUS PILATUS	4
ISOGENOIDES ELON	2
ISOPERLA FULVA	12
ISOPERLA QUINQUE	34
SKWALA PARALLELA	2
PTERONARCELLA BA	2
TAENIONEMA PACIF	42
CHEUMATOPSYCHE	10
HYDROPSYCHE OCCI	38
SYMPHITOPS COCKE	2
HYDROPTILA SP.	10
PSYCHOMYIA FLAVI	2
ZAITZEVIA PARVUL	4
DIAMESA SP. B	6
PAGASTIA SP.	2
CRICOTOPUS SP. B	42
EUKIEFFERIELLA A	2
EUKIEFF..IELLA B	24
HETEROTRISSOCLAD	2
ORTHOCLADIUS (EU	12
ORTHOCLADIUS B	6
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	42
ABLABESMYIA SP.	2
DOLICHOPODIDAE	2
SIMULIUM SP.	12
OLIGOCHAETA	4

5/D-53	
BAETIS TRICAUDAT	146
EPHEMERELLA INFR	134
RHITHROGENA HAGE	64
PARALEPTOPHL MEM	2
AMELETUS VELOX	2
CAPNIA-GROUP SP.	64
PROSTOIA BESAMET	4
CULTUS PILATUS	8
ISOPERLA FULVA	26
ISOPERLA QUINQUE	20
TAENIONEMA PACIF	52
CHEUMATOPSYCHE	2
HYDROPSYCHE OCCI	24
HYDROPTILA SP.	6
OPTIOSERVUS SPP.	2
CRICOTOPUS SP. B	18
EUKIEFFERIELLA B	18
ORTHOCLADIUS (EU	12
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	14
SIMULIUM SP.	2

Table 16. Continued

67A-53		67B-53	
BAETIS TRICAUDAT	32	BAETIS TRICAUDAT	[illegible]
EPHEMERELLA INFR	270	EPHEMERELLA INFR	264
HEPTAGENIA SOLIT	4	RHITHROGENA HAGE	2[illegible]
RHITHROGENA HAGE	10	AMELETUS VELOX	16
AMELETUS VELOX	6	CAPNIA-GROUP SP.	16
CAPNIA-GROUP SP.	74	PROSTOIA BESAMET	2
CULTUS PILATUS	6	CULTUS PILATUS	14
ISOPERLA FULVA	16	ISOGENOIDES ELON	2
TAENIONEMA PACIF	2	ISOPERLA FULVA	2
ARCTOPSYCHE GRAN	4	ISOPERLA QUINQUE	6
CHEUMATOPSYCHE	88	TAENIONEMA PACIF	[illegible]
HYDROPSYCHE OCCI	20	CHEUMATOPSYCHE	[illegible]
SYMPHITOPS COCKE	16	HYDROPSYCHE OCCI	[illegible]
SYMPHITOPS SLOSS	2	SYMPHITOPS COCKE	12
HYDROPTILA SP.	10	HYDROPTILA SP.	44
OECETIS SP. A	8	OECETIS SP. A	[illegible]
PSYCHOMYIA FLAVI	28	PSYCHOMYIA FLAVI	42
PARARGYRACTIS SP	8	PARARGYRACTIS SP	12
OPTIOSERVUS SPP.	2	OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	12	ZAITZEVIA PARVUL	4
MICROTENDIPES SP	14	MICROTENDIPES SP	16
TANYTARSUS SP. B	10	PHAENOPSECTRA SP	2
PAGASTIA SP.	2	TANYTARSUS SP. B	12
CRICOTOPUS SP. B	30	DIAMESA SP. B	2
EUKIEFFERIELLA A	6	PAGASTIA SP.	10
EUKIEFFERIELLA E	2	CRICOTOPUS SP. B	26
ORTHOCLADIUS (EU	24	EUKIEFFERIELLA A	[illegible]
ORTHOCLADIUS B	12	EUKIEFFERIELLA B	6
ORTHOCLADIUS MAL	2	EUKIEFFERIELLA E	[illegible]
ORTHOCLADIUS OBU	18	ORTHOCLADIUS (EU	[illegible]
CHELIFERA SP.	2	ORTHOCLADIUS B	10
SIMULIUM SP.	2	ORTHOCLADIUS OBU	34

Table 16. Continued

6/C-53	
BAETIS TRICAUDAT	40
EPHEMERELLA INFR	308
RHITHROGENA HAGE	32
PARALEPTOPHL MEM	2
AMELETUS VELOX	12
CAPNIA-GROUP SP.	62
PROSTOIA BESAMET	4
CALINEURIA CALIF	2
CULTUS PILATUS	10
ISOGENOIDES ELON	4
ISOPERLA FULVA	8
ISOPERLA QUINQUE	14
SKWALA PARALLELA	2
TAENIONEMA PACIF	2
CHEUMATOPSYCHE	110
HYDROPSYCHE OCCI	12
SYMPHITOPS COCKE	8
HYDROPTILA SP.	44
OECETIS SP. A	20
PSYCHOMYIA FLAVI	44
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	16
MICROTENDIPES SP	18
PHAENOPSECTRA SP	2
TANYTARSUS SP. B	20
PAGASTIA SP.	6
CRICOTOPUS SP. B	62
EUKIEFFERIELLA A	6
ORTHOCLADIUS (EU	22
ORTHOCLADIUS B	18
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	58

6/D-53	
BAETIS TRICAUDAT	28
EPHEMERELLA INFR	268
HEPTAGENIA SOLIT	6
RHITHROGENA HAGE	16
PARALEPTOPHL MEM	2
CAPNIA-GROUP SP.	12
PROSTOIA BESAMET	2
CULTUS PILATUS	10
ISOPERLA QUINQUE	14
TAENIONEMA PACIF	2
CHEUMATOPSYCHE	74
HYDROPSYCHE OCCI	26
SYMPHITOPS COCKE	14
HYDROPTILA SP.	24
ZUMATRICHIA NOTO	4
OECETIS SP. A	24
PSYCHOMYIA FLAVI	66
PARARGYRACTIS SP	10
ZAITZEVIA PARVUL	8
MICROTENDIPES SP	42
POLYPEDILUM SP.A	2
TANYTARSUS SP. B	20
DIAMESA SP. B	2
PAGASTIA SP.	8
CRICOTOPUS SP. B	96
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	12
EUKIEFFERIELLA E	2
HETEROTRISSOCLAD	4
ORTHOCLADIUS (EU	44
ORTHOCLADIUS B	20
ORTHOCLADIUS MAL	10
ORTHOCLADIUS OBU	64
SIMULIUM SP.	4

Table 16. Continued

8/A-53		8/B-53	
BAETIS TRICAUDAT	84	BAETIS TRICAUDAT	[illegible]
EPHEMERELLA INFR	836	EPHEMERELLA INFR	[illegible]
RHITHROGENA HAGE	48	EPEORUS ALBERTAE	4
PARALEPTOPHL MEM	4	RHITHROGENA HAGE	8
AMELETUS VELOX	12	AMELETUS VELOX	4
PROSTOIA BESAMET	16	CAPNIA-GROUP SP.	4
CULTUS PILATUS	20	CULTUS PILATUS	12
ISOPERLA FULVA	56	ISOPERLA FULVA	[illegible]
ISOPERLA QUINQUE	28	ISOPERLA QUINQUE	12
SKWALA PARALLELA	4	PTERONARCYS CALI	4
TAENIONEMA PACIF	20	ARCTOPSYCHE GRAN	[illegible]
ARCTOPSYCHE GRAN	8	CHEUMATOPSYCHE	[illegible]
CHEUMATOPSYCHE	36	HYDROPSYCHE OCCI	[illegible]
HYDROPSYCHE OCCI	92	SYMPHITOPS COCKE	[illegible]
SYMPHITOPS COCKE	48	HYDROPTILA SP.	4
SYMPHITOPS SLOSS	4	PSYCHOMYIA FLAVI	4
HYDROPTILA SP.	16	RHYACOPHILA BIFI	4
PSYCHOMYIA FLAVI	12	PARARGYRACTIS SP	16
OPTIOSERVUS SPP.	12	OPTIOSERVUS SPP.	4
MICROTENDIPES SP	4	MICROPSECTR SP.A	[illegible]
TANYTARSUS SP. B	20	MICROTENDIPES SP	[illegible]
DIAMESA SP. B	24	POLYPEDILUM SP.A	[illegible]
PAGASTIA SP.	8	TANYTARSUS SP. B	4
BRILLIA SP.	4	DIAMESA SP. B	4
CRICOTOPUS SP. B	456	CRICOTOPUS SP. B	152
EUKIEFFERIELLA A	60	EUKIEFFERIELLA A	32
EUKIEFFERIELLA B	60	EUKIEFFERIELLA B	80
EUKIEFFERIELLA E	4	ORTHOCLADIUS (EU	[illegible]
ORTHOCLADIUS (EU	80	ORTHOCLADIUS B	48
ORTHOCLADIUS B	116	ORTHOCLADIUS MAL	12
ORTHOCLADIUS MAL	40	ORTHOCLADIUS OBU	32
ORTHOCLADIUS OBU	44	WIEDEMANNIA SP.	4
ABLABESMYIA SP.	4	PACIFASTICUS SP.	4
SIMULIUM SP.	12	OLIGOCHAETA	112
OLIGOCHAETA	140	OLIGOCHAETA LUMB	12
OLIGOCHAETA LUMB	8		

Table 16. Continued

8/C-53		8/D-53	
BAETIS TRICAUDAT	36	BAETIS TRICAUDAT	148
EPHEMERELLA INFR	588	EPHEMERELLA INFR	612
RHITHROGENA HAGE	44	RHITHROGENA HAGE	16
AMELETUS VELOX	4	AMELETUS VELOX	4
PROSTOIA BESAMET	8	CAPNIA-GROUP SP.	4
CULTUS PILATUS	24	PROSTOIA BESAMET	16
ISOGENOIDES ELON	4	CULTUS PILATUS	16
ISOPERLA FULVA	36	ISOPERLA FULVA	16
ISOPERLA QUINQUE	24	ISOPERLA QUINQUE	20
PTERONARCELLA BA	4	TAENIONEMA PACIF	12
TAENIONEMA PACIF	12	ARCTOPSYCHE GRAN	4
ARCTOPSYCHE GRAN	4	CHEUMATOPSYCHE	40
CHEUMATOPSYCHE	24	HYDROPSYCHE OCCI	136
HYDROPSYCHE OCCI	36	SYMPHITOPS COCKE	56
SYMPHITOPS COCKE	12	HYDROPTILA SP.	20
HYDROPTILA SP.	16	OECETIS SP. A	4
OECETIS SP. A	4	PSYCHOMYIA FLAVI	12
PSYCHOMYIA FLAVI	4	PARARGYRACTIS SP	8
PARARGYRACTIS SP	16	ZAITZEVIA PARVUL	4
OPTIOSERVUS SPP.	4	MICROTENDIPES SP	44
ZAITZEVIA PARVUL	4	PHAENOPSECTRA SP	4
DICROTENDIP SP.C	4	POLYPEDILUM SP.A	12
MICROTENDIPES SP	12	TANYTARSUS SP. B	24
PHAENOPSECTRA SP	4	DIAMESA SP. B	68
POLYPEDILUM SP.A	16	CRICOTOPUS SP. B	508
TANYTARSUS SP. B	32	EUKIEFFERIELLA A	112
DIAMESA SP. B	44	EUKIEFFERIELLA B	116
PAGASTIA SP.	8	EUKIEFFERIELLA E	4
CRICOTOPUS SP. B	496	HETEROTRISSOCLAD	4
EUKIEFFERIELLA A	44	ORTHOCLADIUS (EU	120
EUKIEFFERIELLA B	108	ORTHOCLADIUS B	96
EUKIEFFERIELLA E	12	ORTHOCLADIUS MAL	44
HETEROTRISSOCLAD	4	ORTHOCLADIUS OBU	76
ORTHOCLADIUS (EU	176	ABLABESMYIA SP.	8
ORTHOCLADIUS B	116	SIMULIUM SP.	32
ORTHOCLADIUS MAL	24	OLIGOCHAETA	76
ORTHOCLADIUS OBU	100	OLIGOCHAETA LUMB	4
ABLABESMYIA SP.	4		
CHELIFERA SP.	4		
SIMULIUM SP.	4		
OLIGOCHAETA	124		
OLIGOCHAETA LUMB	4		

Table 16. Continued

9/A-53	
BAETIS TRICAUDAT	82
EPHEMERELLA INFR	176
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	26
PARALEPTOPHL MEM	2
AMELETUS VELOX	4
CAPNIA-GROUP SP.	96
PROSTOIA BESAMET	4
CULTUS PILATUS	4
ISOGENOIDES ELON	8
ISOPERLA FULVA	32
ISOPERLA QUINQUE	12
TAENIONEMA PACIF	10
CHEUMATOPSYCHE	26
HYDROPSYCHE OCCI	12
SYMPHITOPS COCKE	4
HYDROPTILA SP.	40
PSYCHOMYIA FLAVI	24
ZAITZEVIA PARVUL	2
MICROTENDIPES SP	2
TANYTARSUS SP. B	102
DIAMESA SP. B	16
CRICOTOPUS SP. B	148
EUKIEFFERIELLA A	2
EUKIEFFERIELLA B	4
ORTHOCLADIUS (EU	66
ORTHOCLADIUS B	8
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	30
ABLABESMYIA SP.	2

9/B-53	
BAETIS TRICAUDAT	30
EPHEMERELLA INFR	[illegible]
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	10
PARALEPTOPHL MEM	8
CAPNIA-GROUP SP.	102
ISOGENOIDES ELON	[illegible]
ISOPERLA FULVA	6
ISOPERLA QUINQUE	6
SKWALA PARALLELA	4
TAENIONEMA PACIF	10
CHEUMATOPSYCHE	8
HYDROPSYCHE OCCI	10
HYDROPTILA SP.	54
OECETIS SP. A	10
PSYCHOMYIA FLAVI	16
MICROTENDIPES SP	[illegible]
TANYTARSUS SP. B	[illegible]
DIAMESA SP. B	[illegible]
CRICOTOPUS SP. B	62
EUKIEFFERIELLA A	[illegible]
EUKIEFFERIELLA B	4
EUKIEFFERIELLA D	2
ORTHOCLADIUS (EU	[illegible]
ORTHOCLADIUS B	[illegible]
ORTHOCLADIUS OBU	34
SIMULIUM SP.	4

Table 16. Continued

9/C-53	
BAETIS TRICAUDAT	262
EPHEMERELLA INFR	298
RHITHROGENA HAGE	74
PARALEPTOPHL MEN	4
AMELETUS VELOX	6
CAPNIA-GROUP SP.	102
ALLOPERLA-GROUP	2
PROSTOIA BESAMET	22
CULTUS PILATUS	4
ISOGENOIDES ELON	14
ISOPERLA FULVA	32
ISOPERLA QUINQUE	16
TAENIONEMA PACIF	42
CHEUMATOPSYCHE	8
HYDROPSYCHE OCCI	14
HYDROPTILA SP.	42
PSYCHOMYIA FLAVI	16
ZAITZEVIA PARVUL	2
MICROTENDIPES SP	6
TANYTARSUS SP. B	136
DIAMESA SP. B	50
CRICOTOPUS SP. B	324
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	18
ORTHOCLADIUS (EU	134
ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	62
SIMULIUM SP.	4

9/D-53	
BAETIS TRICAUDAT	72
EPHEMERELLA INFR	88
RHITHROGENA HAGE	14
PARALEPTOPHL MEN	6
AMELETUS VELOX	4
CAPNIA-GROUP SP.	136
PROSTOIA BESAMET	4
CALINEURIA CALIF	2
CULTUS PILATUS	2
ISOGENOIDES ELON	2
ISOPERLA FULVA	2
ISOPERLA QUINQUE	4
SKWALA PARALLELA	2
PTERONARCELLA BA	4
CHEUMATOPSYCHE	18
HYDROPSYCHE OCCI	22
SYMPHITOPS COCKE	4
HYDROPTILA SP.	128
OECETIS SP. A	26
PSYCHOMYIA FLAVI	30
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	4
MICROTENDIPES SP	4
PARACLADOPE SP.B	2
TANYTARSUS SP. B	138
DIAMESA SP. B	24
CRICOTOPUS SP. B	118
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	12
HETEROTRISSOCLAD	2
ORTHOCLADIUS (EU	30
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	36
PHYSA SP.	2

Table 16. Continued

10/A-53	
BAETIS TRICAUDAT	124
EPHEMERELLA INFR	940
EPEORUS ALBERTAE	8
RHITHROGENA HAGE	720
PARALEPTOPHL MEM	32
CAPNIA GROUP SP.	52
PROSTOIA BESAMET	4
CULTUS PILATUS	4
ISOPERLA FULVA	20
ISOPERLA QUINQUE	44
PTERONARCELLA BA	16
TAENIONEMA PACIF	72
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	16
HYDROPSYCHE OCCI	48
SYMPHITOPS COCKE	12
HYDROPTILA SP.	24
OECETIS SP. A	4
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	60
ZAITZEVIA PARVUL	24
POLYPEDILUM SP.A	4
TANYTARSUS SP. B	8
DIAMESA SP. B	16
PAGASTIA SP.	12
CRICOTOPUS SP. B	88
EUKIEFFERIELLA A	28
EUKIEFFERIELLA B	52
EUKIEFFERIELLA E	60
ORTHOCLADIUS (EU	48
ORTHOCLADIUS B	12
ORTHOCLADIUS MAL	48
ORTHOCLADIUS OBU	28
THIENEMANIELL SP	4
DOLICHOPODIDAE	8
WIEDEMANNIA SP.	12
SIMULIUM SP.	556
ANTOCHA SP.	12

10/B-53	
BAETIS TRICAUDAT	308
CAUDATELLA HYSTR	[illegible]
EPHEMERELLA INFR	1000
PARALEPTOPHL MEM	12
CAPNIA-GROUP SP.	4
PROSTOIA BESAMET	4
CLAASSENI SABULO	40
CULTUS PILATUS	[illegible]
ISOGENOIDES ELONG	4
ISOPERLA FULVA	32
ISOPERLA QUINQUE	[illegible]
PTERONARCELLA BA	[illegible]
TAENIONEMA PACIF	200
PROTOPTILA SP.	4
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	148
HYDROPSYCHE OCCI	200
SYMPHITOPS COCKE	64
HYDROPTILA SP.	68
ZUMATRICHIA NOTO	4
PSYCHOMYIA FLAVI	[illegible]
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	156
ZAITZEVIA PARVUL	32
ATHERIX VARIEGAT	4
MICROPSECTR SP.A	8
TANYTARSUS SP. B	64
DIAMESA SP. B	12
PAGASTIA SP.	56
CRICOTOPUS SP. B	84
EUKIEFFERIELLA A	52
EUKIEFFERIELLA B	80
EUKIEFFERIELLA E	64
EUKIEFFERIELLA F	16
ORTHOCLADIUS (EU	20
ORTHOCLADIUS B	[illegible]
ORTHOCLADIUS MAL	100
ORTHOCLADIUS OBU	20
CHELIFERA SP.	4
WIEDEMANNIA SP.	4
SIMULIUM SP.	320
ANTOCHA SP.	4
TURBELLARI	[illegible]

Table 16. Continued

10/C-53	
BAETIS TRICAUDAT	68
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	820
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	324
PARALEPTOPHL MEM	36
CAPNIA-GROUP SP.	4
CULTUS PILATUS	20
ISOGENOIDES ELON	4
ISOPERLA FULVA	8
TAENIONEMA PACIF	68
CHEUMATOPSYCHE	44
HYDROPSYCHE OCCI	28
SYMPHITOPS COCKE	8
HYDROPTILA SP.	92
ZUMATRICHIA NOTO	4
PARARGYRACTIS SP	12
OPTIOSERVUS SPP.	44
ZAITZEVIA PARVUL	12
ATHERIX VARIEGAT	4
TANYTARSUS SP. B	16
DIAMESA SP. B	4
PAGASTIA SP.	4
CRICOTOPUS SP. B	16
EUKIEFFERIELLA A	20
EUKIEFFERIELLA B	16
EUKIEFFERIELLA E	16
ORTHOCLADIUS (EU	12
ORTHOCLADIUS B	8
ORTHOCLADIUS MAL	16
ORTHOCLADIUS OBU	24
ABLABESMYIA SP.	4
WIEDEMANNIA SP.	4
SIMULIUM SP.	1152
ANTOCHA SP.	8
OLIGOCHAETA LUMB	4

10/D-53	
BAETIS TRICAUDAT	160
EPHEMERELLA INFR	548
EPEORUS ALBERTAE	8
RHITHROGENA HAGE	784
PARALEPTOPHL MEM	24
CAPNIA-GROUP SP.	72
PROSTOIA BESAMET	4
CLAASSENI SABULO	12
HESPEROPERLA PAC	4
CULTUS PILATUS	32
ISOPERLA FULVA	28
ISOPERLA QUINQUE	16
SKWALA PARALLELA	4
PTERONARCELLA BA	16
TAENIONEMA PACIF	68
CHEUMATOPSYCHE	40
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	12
HYDROPTILA SP.	168
LEPIDOSTOMA SP.A	8
PSYCHOMYIA FLAVI	4
PARARGYRACTIS SP	16
OPTIOSERVUS SPP.	56
ZAITZEVIA PARVUL	20
ATHERIX VARIEGAT	4
MICROPSECTR SP.A	12
TANYTARSUS SP. B	72
DIAMESA SP. B	12
PAGASTIA SP.	24
CRICOTOPUS SP. B	96
EUKIEFFERIELLA A	28
EUKIEFFERIELLA B	52
EUKIEFFERIELLA E	36
EUKIEFFERIELLA F	12
ORTHOCLADIUS (EU	64
ORTHOCLADIUS MAL	108
ORTHOCLADIUS OBU	92
TRISSOCLADIUS SP	12
SYNORTHOCLADIUS	4
WIEDEMANNIA SP.	20
SIMULIUM SP.	236
ANTOCHA SP.	36

Table 16. Continued

11/A-53	
BAETIS TRICAUDAT	104
EPHEMERELLA INFR	143
RHITHROGENA HAGE	36
PARALEPTOPHL MEM	4
ISOGENOIDES ELON	4
ISOPERLA FULVA	8
ISOPERLA QUINQUE	12
TAENIONEMA PACIF	60
CHEUMATOPSYCHE	8
HYDROPSYCHE OCCI	24
HYDROPTILA SP.	32
OPTIOSERVUS SPP.	4
PHAENOPSECTRA SP	4
TANYTARSUS SP. B	8
DIAMESA SP. B	12
CRICOTOPUS SP. B	144
EUKIEFFERIELLA A	16
EUKIEFFERIELLA B	28
EUKIEFFERIELLA E	4
ORTHOCLADIUS (EU	28
ORTHOCLADIUS B	108
ORTHOCLADIUS MAL	8
ORTHOCLADIUS OBU	360
SIMULIUM SP.	12

11/B-53	
BAETIS TRICAUDAT	404
EPHEMERELLA INFR	260
RHITHROGENA HAGE	20
PARALEPTOPHL MEM	8
CAPNIA-GROUP SP.	[illegible]
PROSTOIA BESAMET	8
CULTUS PILATUS	12
ISOPERLA FULVA	24
ISOPERLA QUINQUE	12
PTERONARCELLA BA	4
TAENIONEMA PACIF	124
CHEUMATOPSYCHE	12
HYDROPSYCHE OCCI	12
HYDROPTILA SP.	32
PARACLADOPE SP.B	4
TANYTARSUS SP. B	4
DIAMESA SP. B	12
PAGASTIA SP.	4
CRICOTOPUS SP. B	116
EUKIEFFERIELLA B	32
EUKIEFFERIELLA E	16
HETEROTRISSOCLAD	8
ORTHOCLADIUS (EU	128
ORTHOCLADIUS B	124
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	356
SIMULIUM SP.	188

11/C-53	
BAETIS TRICAUDAT	312
EPHEMERELLA INFR	276
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	104
PARALEPTOPHL MEM	4
ALLOPERLA-GROUP	4
CULTUS PILATUS	16
ISOGENOIDES ELON	8
ISOPERLA FULVA	68
ISOPERLA QUINQUE	16
PTERONARCELLA BA	12
TAENIONEMA PACIF	208
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	8
HYDROPTILA SP.	32
PARACLADOPE SP.B	4
TANYTARSUS SP. B	8
DIAMESA SP. B	12
PAGASTIA SP.	8
BRILLIA SP.	4
CRICOTOPUS SP. B	88
EUKIEFFERIELLA B	20
EUKIEFFERIELLA E	8
ORTHOCLADIUS (EU	56
ORTHOCLADIUS B	184
ORTHOCLADIUS MAL	8
ORTHOCLADIUS OBU	224
WIEDEMANNIA SP.	8
SIMULIUM SP.	132

11/D-53	
BAETIS TRICAUDAT	300
EPHEMERELLA INFR	216
RHITHROGENA HAGE	4
PARALEPTOPHL MEM	4
CAPNIA-GROUP SP.	24
ISOPERLA FULVA	4
ISOPERLA QUINQUE	12
TAENIONEMA PACIF	56
HYDROPSYCHE OCCI	20
HYDROPTILA SP.	24
PHAENOPSECTRA SP	4
TANYTARSUS SP. B	8
DIAMESA SP. B	4
CRICOTOPUS SP. B	84
EUKIEFFERIELLA B	24
ORTHOCLADIUS (EU	104
ORTHOCLADIUS B	72
ORTHOCLADIUS OBU	336
SIMULIUM SP.	136

Table 16. Continued

13/A-53	
BAETIS TRICAUDAT	2
EPHEMERELLA INFR	112
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	2
CAPNIA-GROUP SP.	12
CLAASSENI SABULO	2
CULTUS PILATUS	8
PTERONARCELLA BA	2
TAENIONEMA PACIF	2
HYDROPSYCHE OCCI	6
HYDROPTILA SP.	38
OECETIS SP. A	4
ZAITZEVIA PARVUL	2
CRYPTOCHIRONOMUS	2
MICROTENDIPES SP	48
PARACLADOPE SP.B	14
PHAENOPSECTRA SP	18
TANYTARSUS SP. B	18
DIAMESA SP. B	14
PAGASTIA SP.	8
CRICOTOPUS SP. B	26
EUKIEFFERIELLA A	2
EUKIEFFERIELLA B	2
EUKIEFFERIELLA E	2
ORTHOCLADIUS (EU	4
ORTHOCLADIUS B	2
ORTHOCLADIUS OBU	218
ABLABESMYIA SP.	2
WIEDEMANNIA SP.	2
HEXATOMA SP.	2
OLIGOCHAETA	4

13/B-53	
BAETIS TRICAUDAT	22
EPHEMERELLA INFR	88
RHITHROGENA HAGE	18
PARALEPTOPHL MEM	2
AMELETUS VELOX	2
CAPNIA-GROUP SP.	14
CLAASSENI SABULO	2
CULTUS PILATUS	6
ISOGENOIDES ELON	6
ISOPERLA FULVA	10
ISOPERLA QUINQUE	8
SKWALA PARALLELA	2
PTERONARCELLA BA	2
TAENIONEMA PACIF	6
CHEUMATOPSYCHE	8
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	2
HYDROPTILA SP.	24
PSYCHOMYIA FLAVI	2
OREODYTES SCITIL	2
ZAITZEVIA PARVUL	6
MICROTENDIPES SP	6
PARACLADOPE SP.B	2
PHAENOPSECTRA SP	6
TANYTARSUS SP. B	4
DIAMESA SP. B	4
CRICOTOPUS SP. B	30
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	8
HETEROTRISSOCLAD	2
ORTHOCLADIUS (EU	16
ORTHOCLADIUS B	6
ORTHOCLADIUS MAL	8
ORTHOCLADIUS OBU	154
SIMULIUM SP.	4
OLIGOCHAETA	12

Table 16. Continued

13/C-53		13/D-53	
BAETIS TRICAUDAT	58	BAETIS TRICAUDAT	14
EPHEMERELLA INFR	196	EPHEMERELLA INFR	17[illegible]
RHITHROGENA HAGE	14	RHITHROGENA HAGE	22
PARALEPTOPHL MEM	4	PARALEPTOPHL MEM	6
CAPNIA-GROUP SP.	10	CAPNIA-GROUP SP.	12
CULTUS PILATUS	14	ALLOPERLA-GROUP	2
ISOPERLA FULVA	4	CULTUS PILATUS	6
ISOPERLA QUINQUE	6	ISOGENOIDES ELON	10
PTERONARCELLA BA	2	ISOPERLA FULVA	14
TAENIONEMA PACIF	20	ISOPERLA QUINQUE	8
CHEUMATOPSYCHE	22	PTERONARCELLA BA	4
HYDROPSYCHE OCCI	26	TAENIONEMA PACIF	5
SYMPHITOPS SLOSS	2	BRACHYCENTRUS OC	2
HYDROPTILA SP.	44	CHEUMATOPSYCHE	1[illegible]
OECETIS SP. A	2	HYDROPSYCHE OCCI	12
OPTIOSERVUS SPP.	4	HYDROPTILA SP.	34
MICROTENDIPES SP	8	OPTIOSERVUS SPP.	2
PARACLADOPE SP.B	4	ZAITZEVIA PARVUL	6
PHAENOPSECTRA SP	4	MICROTENDIPES SP	11
TANYTARSUS SP. B	8	PHAENOPSECTRA SP	6
DIAMESA SP. B	16	TANYTARSUS SP. B	16
PAGASTIA SP.	4	DIAMESA SP. B	8
CRICOTOPUS SP. B	56	PAGASTIA SP.	6
EUKIEFFERIELLA A	8	CRICOTOPUS SP. B	74
EUKIEFFERIELLA B	16	EUKIEFFERIELLA A	4
EUKIEFFERIELLA E	6	EUKIEFFERIELLA B	16
ORTHOCLADIUS (EU	40	EUKIEFFERIELLA E	2
ORTHOCLADIUS B	16	ORTHOCLADIUS (EU	26
ORTHOCLADIUS MAL	12	ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	196	ORTHOCLADIUS MAL	12
ABLABESMYIA SP.	4	ORTHOCLADIUS OBU	208
SIMULIUM SP.	8	ABLABESMYIA SP.	2
HEXATOMA SP.	4	HEXATOMA SP.	4

Table 16. Continued

14/A-53	
BAETIS TRICAUDAT	28
CAENIS SIMULANS	4
EPHEMERELLA INFR	68
RHITHROGENA HAGE	20
PARALEPTOPHL MEM	20
CAPNIA-GROUP SP.	40
ALLOPERLA-GROUP	4
ISOGENOIDES ELON	16
ISOPERLA FULVA	8
TAENIONEMA PACIF	4
HYDROPTILA SP.	48
OECETIS SP. A	4
ZAITZEVIA PARVUL	4
MICROTENDIPES SP	24
PARACLADOPE SP.B	4
TANYTARSUS SP. B	4
DIAMESA SP. B	12
CRICOTOPUS SP. B	60
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	4
HETEROTRISSOCLAD	4
ORTHOCLADIUS (EU	12
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	192
WIEDEMANNIA SP.	4

14/B-53	
BAETIS TRICAUDAT	76
EPHEMERELLA INFR	28
RHITHROGENA HAGE	20
CAPNIA-GROUP SP.	20
SKWALA PARALLELA	4
TAENIONEMA PACIF	8
HYDROPSYCHE OCCI	4
HYDROPTILA SP.	16
MICROTENDIPES SP	24
PARACLADOPE SP.B	4
PARATANYTARSUS	8
TANYTARSUS SP. B	4
DIAMESA SP. B	12
CRICOTOPUS SP. B	20
HETEROTRISSOCLAD	4
ORTHOCLADIUS (EU	4
ORTHOCLADIUS B	8
ORTHOCLADIUS MAL	8
ORTHOCLADIUS OBU	96
WIEDEMANNIA SP.	4
SIMULIUM SP	8
OLIGOCHAETA	8

14/C-53	
BAETIS TRICAUDAT	4
CAENIS SIMULANS	4
EPHEMERELLA INFR	96
RHITHROGENA HAGE	12
CAPNIA-GROUP SP.	32
HESPEROPERLA PAC	4
CULTUS PILATUS	4
ISOPERLA FULVA	8
ISOPERLA QUINQUE	4
SKWALA PARALLELA	4
TAENIONEMA PACIF	4
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	16
HYDROPTILA SP.	44
OECETIS SP. A	4
MICROTENDIPES SP	4
PHAENOPSECTRA SP	4
TANYTARSUS SP. B	4
DIAMESA SP. B	12
CRICOTOPUS SP. B	28
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	4
ORTHOCLADIUS (EU	16
ORTHOCLADIUS B	16
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	212
SIMULIUM SP.	8

14/D-53	
BAETIS TRICAUDAT	20
EPHEMERELLA INFR	80
RHITHROGENA HAGE	4
PARALEPTOPHL MEM	4
AMELETUS VELOX	4
CAPNIA-GROUP SP.	32
CULTUS PILATUS	12
ISOGENOIDES ELON	8
ISOPERLA FULVA	12
ISOPERLA QUINQUE	4
SKWALA PARALLELA	4
TAENIONEMA PACIF	20
HYDROPTILA SP.	32
PSYCHOMYIA FLAVI	4
OREODYTES SCITIL	4
OPTIOSERVUS SPP.	4
MICROTENDIPES SP	8
PHAENOPSECTRA SP	4
TANYTARSUS SP. B	12
DIAMESA SP. B	4
CRICOTOPUS SP. B	20
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	4
HETEROTRISOCLAD	4
ORTHOCLADIUS (EU	8
ORTHOCLADIUS B	16
ORTHOCLADIUS OBU	260
SIMULIUM SP.	4

Table 16. Continued

15/A-53

BAETIS TRICAUDAT	88
EPHEMERELLA INFR	144
RHITHROGENA HAGE	72
PARALEPTOPHL MEM	12
CAPNIA-GROUP SP.	52
CULTUS PILATUS	12
ISOGENOIDES ELON	8
ISOPERLA FULVA	8
ISOPERLA QUINQUE	12
TAENIONEMA PACIF	12
CHEUMATOPSYCHE	20
HYDROPSYCHE OCCI	8
HYDROPTILA SP.	124
OECETIS SP. A	4
OPTIOSERVUS SPP.	4
PHAENOPSECTRA SP	4
TANYTARSUS SP. B	48
DIAMESA SP. B	48
PAGASTIA SP.	4
CRICOTOPUS SP. B	156
EUKIEFFERIELLA E	4
ORTHOCLADIUS (EU	52
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	428
SIMULIUM SP.	4

15/B-53

BAETIS TRICAUDAT	56
EPHEMERELLA INFR	308
RHITHROGENA HAGE	188
PARALEPTOPHL MEM	12
AMELETUS VELOX	8
CAPNIA-GROUP SP.	56
ALLOPERLA-GROUP	4
CULTUS PILATUS	[illegible]
ISOGENOIDES ELON	8
ISOPERLA FULVA	12
ISOPERLA QUINQUE	12
SKWALA PARALLELA	4
PTERONARCELLA BA	[illegible]
TAENIONEMA PACIF	12
CHEUMATOPSYCHE	16
HYDROPSYCHE OCCI	16
HYDROPTILA SP.	176
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	4
PARACLADOPE SP.B	12
TANYTARSUS SP. B	36
DIAMESA SP. B	64
CRICOTOPUS SP. B	76
EUKIEFFERIELLA A	4
ORTHOCLADIUS (EU	92
ORTHOCLADIUS B	20
ORTHOCLADIUS OBU	220
ABLABESMYIA SP.	4
SIMULIUM SP.	4
HEXATOMA SP.	8
OLIGOCHAETA	8

15/C-53

BAETIS TRICAUDAT	124
EPHEMERELLA INFR	124
RHITHROGENA HAGE	64
PARALEPTOPHL MEM	32
AMELETUS VELOX	4
CAPNIA-GROUP SP.	84
CLAASSENI SABULO	4
CULTUS PILATUS	28
ISOPERLA FULVA	20
ISOPERLA QUINQUE	12
TAENIONEMA PACIF	12
CHEUMATOPSYCHE	8
HYDROPSYCHE OCCI	8
HYDROPTILA SP.	236
OECETIS SP. A	8
ZAITZEVIA PARVUL	4
PARACLADOPE SP.B	16
PHAENOPSECTRA SP	24
TANYTARSUS SP. B	32
DIAMESA SP. B	64
CRICOTOPUS SP. B	136
EUKIEFFERIELLA B	8
EUKIEFFERIELLA E	4
HETEROTRISSOCLAD	8
ORTHOCLADIUS (EU	36
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	904
OLIGOCHAETA	4

15/D-53

BAETIS TRICAUDAT	68
EPHEMERELLA INFR	64
RHITHROGENA HAGE	40
PARALEPTOPHL MEM	24
AMELETUS VELOX	8
CAPNIA-GROUP SP.	188
ISOGENOIDES ELON	20
ISOPERLA FULVA	12
ISOPERLA QUINQUE	4
SKWALA PARALLELA	8
TAENIONEMA PACIF	12
HYDROPTILA SP.	100
ZAITZEVIA PARVUL	4
PARACLADOPE SP.B	4
PHAENOPSECTRA SP	8
TANYTARSUS SP. B	4
DIAMESA SP. B	44
CRICOTOPUS SP. B	76
EUKIEFFERIELLA B	4
ORTHOCLADIUS (EU	84
ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	544

Table 16. Continued

19/A-53	
BAETIS TRICAUDAT	140
EPHEMERELLA INFR	130
HEPTAGENIA SOLIT	8
RHITHROGENA HAGE	16
PARALEPTOPHL MEM	24
PROSTOIA BESAMET	4
CULTUS PILATUS	4
ISOPERLA FULVA	4
ISOPERLA QUINQUE	16
TAENIONEMA PACIF	4
CHEUMATOPSYCHE	8
HYDROPSYCHE OCCI	8
HYDROPTILA SP.	48
PSYCHOMYIA FLAVI	8
POLYPEDILUM SP.A	4
DIAMESA SP. B	76
CRICOTOPUS SP. B	156
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	76
ORTHOCLADIUS (EU	52
ORTHOCLADIUS MAL	24
ORTHOCLADIUS OBU	48
ABLABESMYIA SP.	4
SIMULIUM SP.	4

19/B-53	
BAETIS TRICAUDAT	200
EPHEMERELLA INFR	240
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	8
PARALEPTOPHL MEM	12
CAPNIA-GROUP SP.	16
PROSTOIA BESAMET	8
CULTUS PILATUS	4
ISOGENOIDES ELON	4
ISOPERLA FULVA	16
ISOPERLA QUINQUE	8
TAENIONEMA PACIF	8
CHEUMATOPSYCHE	4
HYDROPTILA SP.	80
PSYCHOMYIA FLAVI	16
DIAMESA SP. B	52
CRICOTOPUS SP. B	144
EUKIEFFERIELLA B	32
EUKIEFFERIELLA E	8
ORTHOCLADIUS (EU	132
ORTHOCLADIUS MAL	56
ORTHOCLADIUS OBU	40

19/C-53	
BAETIS TRICAUDAT	84
EPHEMERELLA INFR	68
RHITHROGENA HAGE	16
AMELETUS VELOX	4
CAPNIA-GROUP SP.	16
CULTUS PILATUS	8
ISOPERLA QUINQUE	4
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	8
SYMPHITOPS COCKE	12
HYDROPTILA SP.	88
PSYCHOMYIA FLAVI	4
DIAMESA SP. B	144
CRICOTOPUS SP. B	76
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	24
ORTHOCLADIUS (EU	76
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	32
ORTHOCLADIUS OBU	68

19/D-53	
BAETIS TRICAUDAT	372
EPHEMERELLA INFR	192
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	20
PARALEPTOPHL MEM	28
AMELETUS VELOX	4
CAPNIA-GROUP SP.	48
PROSTOIA BESAMET	20
CULTUS PILATUS	28
ISOPERLA FULVA	12
ISOPERLA QUINQUE	12
TAENIONEMA PACIF	12
CHEUMATOPSYCHE	4
HYDROPSYCHE OCCI	12
HYDROPTILA SP.	32
CERACLEA SP.	4
PSYCHOMYIA FLAVI	16
ZAITZEVIA PARVUL	4
TANYTARSUS SP. B	4
DIAMESA SP. B	64
CRICOTOPUS SP. B	48
EUKIEFFERIELLA B	8
ORTHOCLADIUS (EU	76
ORTHOCLADIUS MAL	20
ORTHOCLADIUS OBU	36
SIMULIUM SP.	8

Table 16. Continued

21/A-53	
BAETIS TRICAUDAT	40
DRUNELLA GRANDIS	12
EPHEMERELLA INFR	912
PROSTOIA BESAMET	8
CLAASSENI SABULO	4
CULTUS PILATUS	4
ISOGENOIDES ELON	4
PTERONARCYS CALI	4
TAENIONEMA PACIF	8
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	16
HYDROPSYCHE OCCI	20
SYMPHITOPS COCKE	12
HYDROPTILA SP.	124
PSYCHOMYIA FLAVI	12
ZAITZEVIA PARVUL	8
MICROTENDIPES SP	16
PHAENOPSECTRA SP	4
PAGASTIA SP.	20
CRICOTOPUS SP. B	44
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	4
ORTHOCLADIUS (EU	32
ORTHOCLADIUS MAL	24
ORTHOCLADIUS OBU	60
TRISSOCLADIUS SP	8
OLIGOCHAETA	4
OLIGOCHAETA LUMB	8
TURBELLARI	8

21/B-53	
BAETIS TRICAUDAT	40
EPHEMERELLA INFR	[illegible]
RHITHROGENA HAGE	4
PARALEPTOPHL MEI	[illegible]
AMELETUS VELOX	[illegible]
PROSTOIA BESAMET	4
CLAASSENI SABULO	[illegible]
CULTUS PILATUS	4
ISOPERLA FULVA	4
PTERONARCYS CALI	4
TAENIONEMA PACIF	4
ARCTOPSYCHE GRA	[illegible]
CHEUMATOPSYCHE	[illegible]
HYDROPSYCHE OCCI	[illegible]
SYMPHITOPS COCKE	
SYMPHITOPS SLOSS	
HYDROPTILA SP.	[illegible]
CERACLEA SP.	4
PSYCHOMYIA FLAVI	16
ZAITZEVIA PARVUL	8
MICROTENDIPES SP	[illegible]
PHAENOPSECT SP.B	[illegible]
TANY[illegible]	
PAGASTIA S.	[illegible]
CRICOTOPUS SP. B	[illegible]0
CRICOTOPUS SP C	4
ORTHOCLADIUS (EU	[illegible]
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	[illegible]
ORTHOCLADIUS OBU	[illegible]
TRISSOCLADIUS SP	[illegible]
TURBELLARI	4

Table 16. Continued

21/C-53		21/D-53	
BAETIS TRICAUDAT	68	BAETIS TRICAUDAT	32
DRUNELLA GRANDIS	8	DRUNELLA GRANDIS	8
EPHEMERELLA INFR	1120	EPHEMERELLA INFR	732
HEPTAGENIA SOLIT	4	RHITHROGENA HAGE	16
RHITHROGENA HAGE	28	PARALEPTOPHL MEM	8
PARALEPTOPHL MEM	8	CLAASSENI SABULO	4
HESPEROPERLA PAC	4	ISOGENOIDES ELON	8
CULTUS PILATUS	4	ISOPERLA FULVA	4
ISOGENOIDES ELON	4	SKWALA PARALLELA	4
ISOPERLA FULVA	16	BRACHYCENTRUS AM	4
ISOPERLA QUINQUE	4	CHEUMATOPSYCHE	52
TAENIONEMA PACIF	12	HYDROPSYCHE OCCI	16
CHEUMATOPSYCHE	20	SYMPHITOPS COCKE	12
HYDROPSYCHE OCCI	16	HYDROPTILA SP.	160
SYMPHITOPS COCKE	4	CERACLEA SP.	4
SYMPHITOPS SLOSS	4	PSYCHOMYIA FLAVI	12
HYDROPTILA SP.	52	OPTIOSERVUS SPP.	4
PSYCHOMYIA FLAVI	12	MICROTENDIPES SP	28
OPTIOSERVUS SPP.	4	DIAMESA SP. B	4
ZAITZEVIA PARVUL	20	PAGASTIA SP.	8
MICROTENDIPES SP	8	CRICOTOPUS SP. B	24
PAGASTIA SP.	12	ORTHOCLADIUS (EU	24
CRICOTOPUS SP. B	20	ORTHOCLADIUS MAL	44
EUKIEFFERIELLA B	4	ORTHOCLADIUS OBU	12
ORTHOCLADIUS (EU	56	TRISSOCLADIUS SP	8
ORTHOCLADIUS MAL	24		
ORTHOCLADIUS OBU	12		
TRISSOCLADIUS SP	8		
SIMULIUM SP.	4		
TURBELLARI	4		

Table 16. Continued

23/A-53		23/B-53	
BAETIS TRICAUDAT	24	BAETIS TRICAUDAT	8
CAENIS SIMULANS	4	CAENIS SIMULANS	28
EPHEMERELLA INFR	4	EPHEMERELLA INFR	[illegible]
RHITHROGENA HAGE	8	RHITHROGENA HAGE	4
STENONEMA SP.	4	STENONEMA SP.	4
TAENIONEMA PACIF	8	CAPNIA-GROUP SP.	4
AESHNA SP.	4	TAENIONEMA PACIF	4
DUBIRAPHIA SP.	4	AESHNA SP.	8
MICROPSECTR SP.A	4	HYDROPTILA SP.	16
PHAENOPSECT SP.B	4	MYSTACIDES SP.	4
DIAMESA SP. B	4	DUBIRAPHIA SP.	4
PAGASTIA SP.	12	PHAENOPSECT SP.B	4
CRICOTOPUS SP. B	40	DIAMESA SP. B	16
ORTHOCLADIUS (EU	28	PAGASTIA SP.	4
ORTHOCLADIUS G	208	POTTHASTIA SP	[illegible]
ORTHOCLADIUS NIG	40	CRICOTOPUS SP. B	[illegible]
ORTHOCLADIUS OBU	180	ORTHOCLADIUS (EU	[illegible]
SYNORTHOCLADIUS	28	ORTHOCLADIUS G	[illegible]
TRISSOCLADIUS SP	36	ORTHOCLADIUS NIG	24
SIMULIUM SP.	28	ORTHOCLADIUS OBU	100
HYALELLA AZTECA	176	SYNORTHOCLADIUS	8
GYRAULUS SP.	32	TRISSOCLADIUS SP	20
OLIGOCHAETA	4	SIMULIUM SP	[illegible]
		HYALELLA AZTECA	[illegible]
		GYRAULUS SP.	[illegible]
		TURBELLARI	12

23/C-53		23/D-53	
BAETIS TRICAUDAT	8	BAETIS TRICAUDAT	16
CAENIS SIMULANS	4	CAENIS SIMULANS	8
RHITHROGENA HAGE	4	RHITHROGENA HAGE	8
TAENIONEMA PACIF	8	TAENIONEMA PACIF	8
HYDROPTILA SP.	4	HYDROPTILA SP.	12
POLYCENTROPUS SP	8	TRIAENODES SP.	4
TANYTARSUS SP. B	4	MICROPSECTR SP.A	12
DIAMESA SP. B	12	MICROPSECTR SP.C	4
PAGASTIA SP.	16	DIAMESA SP. B	4
CRICOTOPUS SP. B	40	PAGASTIA SP.	12
ORTHOCLADIUS (EU	12	CORYNONEURA SP.	4
ORTHOCLADIUS B	4	CRICOTOPUS SP. B	20
ORTHOCLADIUS G	308	ORTHOCLADIUS (EU	28
ORTHOCLADIUS NIG	12	ORTHOCLADIUS G	140
ORTHOCLADIUS OBU	180	ORTHOCLADIUS NIG	4
SYNORTHOCLADIUS	16	ORTHOCLADIUS OBU	88
SIMULIUM SP.	16	SYNORTHOCLADIUS	12
HYALELLA AZTECA	152	TRISSOCLADIUS SP	16
GYRAULUS SP.	4	SIMULIUM SP.	24
PHYSA SP.	12	HYALELLA AZTECA	128
OLIGOCHAETA	4	GYRAULUS SP.	8

Table 16. Continued

24/A-53	
BAETIS TRICAUDAT	4
EPHEMERELLA INFR	12
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	10
STENONEMA SP.	48
ISOGENOIDES ELON	6
CHEUMATOPSYCHE	52
SYMPHITOPS COCKE	6
HYDROPTILA SP.	4
CERACLEA SP.	2
ZAITZEVIA PARVUL	10
MICROPSECTR SP.A	4
MICROTENDIPES SP	6
PHAENOPSECTRA SP	2
POLYPEDILUM SP.A	2
DIAMESA SP. B	28
PAGASTIA SP.	4
CRICOTOPUS SP. B	286
EUKIEFFERIELLA B	20
EUKIEFFERIELLA E	10
ORTHOCLADIUS (EU	58
ORTHOCLADIUS MAL	42
ORTHOCLADIUS OBU	438
TRISSOCLADIUS SP	42
SYNORTHOCLADIUS	8
SIMULIUM SP.	38
FERRISSIA SP.	2

24/B-53	
BAETIS TRICAUDAT	14
CAUDATELLA HYSTR	2
EPHEMERELLA INFR	6
RHITHROGENA HAGE	4
STENONEMA SP.	10
PARALEPTOPHL MEM	4
PROSTOIA BESAMET	2
TAENIONEMA PACIF	4
CHEUMATOPSYCHE	10
HYDROPTILA SP.	6
PSYCHOMYIA FLAVI	2
ZAITZEVIA PARVUL	2
MICROPSECTR SP.A	14
DIAMESA SP. B	42
CRICOTOPUS SP. B	246
EUKIEFFERIELLA A	2
EUKIEFFERIELLA B	10
ORTHOCLADIUS (EU	44
ORTHOCLADIUS MAL	6
ORTHOCLADIUS OBU	318
TRISSOCLADIUS SP	26
SYNORTHOCLADIUS	10
ABLABESMYIA SP.	4
SIMULIUM SP.	28
LYMNAEA SP.	4
OLIGOCHAETA LUMB	2

24/C-53	
BAETIS TRICAUDAT	30
EPHEMERELLA INFR	6
RHITHROGENA HAGE	10
STENONEMA SP.	22
PROSTOIA BESAMET	4
TAENIONEMA PACIF	2
CHEUMATOPSYCHE	2
HYDROPTILA SP.	2
MICROPSECTR SP.A	8
DIAMESA SP. B	40
CRICOTOPUS SP. B	216
EUKIEFFERIELLA B	18
ORTHOCLADIUS (EU	168
ORTHOCLADIUS MAL	18
ORTHOCLADIUS OBU	264
TRISSOCLADIUS SP	14
SYNORTHOCLADIUS	12
SIMULIUM SP.	58
LYMNAEA SP.	4

24/D-53	
BAETIS TRICAUDAT	16
EPHEMERELLA INFR	10
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	6
STENONEMA SP.	78
PARALEPTOPHL MEM	2
ISOGENOIDES ELON	12
TAENIONEMA PACIF	8
CHEUMATOPSYCHE	80
HYDROPSYCHE OCCI	6
SYMPHITOPS COCKE	20
HYDROPTILA SP.	6
CERACLEA SP.	6
PSYCHOMYIA FLAVI	4
ZAITZEVIA PARVUL	14
MICROPSECTR SP.A	14
MICROTENDIPES SP	18
DIAMESA SP. B	44
PAGASTIA SP.	4
CRICOTOPUS SP. B	276
EUKIEFFERIELLA B	18
EUKIEFFERIELLA E	8
ORTHOCLADIUS (EU	110
ORTHOCLADIUS B	14
ORTHOCLADIUS MAL	38
ORTHOCLADIUS OBU	408
TRISSOCLADIUS SP	26
SYNORTHOCLADIUS	10
SIMULIUM SP.	72
FERRISSIA SP.	12
LYMNAEA SP.	12

Table 16. Continued

25/A-53	
STENONEMA SP.	20
CHEUMATOPSYCHE	20
HYDROPTILA SP.	16
PSYCHOMYIA FLAVI	4
DICROTENDIP SP.A	4
MICROPSECTR SP.A	24
MICROTENDIPES SP	8
DIAMESA SP. B	12
PAGASTIA SP.	4
CRICOTOPUS SP. B	332
EUKIEFFERIELLA A	4
EUKIEFFERIELLA E	4
ORTHOCLADIUS (EU	44
ORTHOCLADIUS OBU	608
TRISSOCLADIUS SP	32
SYNORTHOCLADIUS	4
SIMULIUM SP.	12
GYRAULUS SP.	12
LYMNAEA SP.	4
OLIGOCHAETA LUMB	4

25/B-53	
STENONEMA SP.	[illegible]
CHEUMATOPSYCHE	[illegible]
HYDROPSYCHE OCCI	[illegible]
PSYCHOMYIA FLAVI	[illegible]
MICROPSECTR SP.A	20
MICROTENDIPES SP	12
DIAMESA SP. B	4
CRICOTOPUS SP. B	120
ORTHOCLADIUS (EU	4
ORTHOCLADIUS OBU	188
TRISSOCLADIUS SP	4
OLIGOCHAETA LUMB	4

25/C-53	
STENONEMA SP.	20
CHEUMATOPSYCHE	8
HYDROPTILA SP.	32
CERACLEA SP.	8
PSYCHOMYIA FLAVI	4
DICROTENDIP SP.A	16
MICROPSECTR SP.A	48
MICROTENDIPES SP	20
DIAMESA SP. B	12
CRICOTOPUS SP. B	256
EUKIEFFERIELLA B	4
ORTHOCLADIUS (EU	28
ORTHOCLADIUS OBU	768
TRISSOCLADIUS SP	16
SYNORTHOCLADIUS	4
GYRAULUS SP.	12

25/D-53	
RHITHROGENA HAG	[illegible]
STENONEMA SP.	[illegible]
CHEUMATOPSYCHE	20
HYDROPTILA SP.	16
CERACLEA SP.	4
DICROTENDIP SP.A	20
MICROPSECTR SP.A	52
MICROTENDIPES SP	16
PHAENOPSECTRA SP	4
DIAMESA SP. B	12
PAGASTIA SP.	8
CRICOTOPUS SP. B	[illegible]
HETEROTRISSOCLAD	4
ORTHOCLADIUS (EU	64
ORTHOCLADIUS OBU	852
TRISSOCLADIUS SP	28
ABLABESMYIA SP.	4
WIEDEMANNIA SP.	4
LYMNAEA SP.	4
OLIGOCHAETA	4

Table 16. Continued

277A-53	
BAETIS TRICAUDAT	4
EPHEMERELLA INFR	2
HEPTAGENIA SOLIT	18
RHITHROGENA HAGE	2
STENONEMA SP.	92
PTERONARCYS CALI	2
TAENIONEMA PACIF	2
OPHIOGOMPHUS SP.	4
CHEUMATOPSYCHE	16
HYDROPSYCHE SP.A	6
SYMPHITOPS COCKE	2
HYDROPTILA SP.	22
POLYCENTROPUS SP	2
PSYCHOMYIA FLAVI	2
MICROTENDIP SP.A	22
MICROPSECTR SP.A	4
MICROPSECTR SP.C	2
MICROTENDIPES SP	6
TANYTARSUS SP B	24
DIAMESA SP. A	2
DIAMESA SP. B	22
PAGASTIA SP.	10
CRICOTOPUS SP. B	90
EUKIEFFERIELLA A	6
EUKIEFFERIELLA B	6
EUKIEFFERIELLA E	2
ORTHOCLADIUS (EU	22
ORTHOCLADIUS B	2
ORTHOCLADIUS MAL	12
ORTHOCLADIUS OBU	124
TRISSOCLADIUS SP	16
ABLABESMYIA SP.	2
WIEDEMANNIA SP.	4
SIMULIUM SP.	66

277B-53	
HEPTAGENIA SOLIT	6
STENONEMA SP.	58
CHEUMATOPSYCHE	16
HYDROPSYCHE OCCI	2
HYDROPTILA SP.	14
CERACLEA SP.	10
PARARGYRACTIS SP	2
DUBIRAPHIA SP.	2
ZAITZEVIA PARVUL	2
DICROTENDIP SP.A	16
MICROTENDIPES SP	20
TANYTARSUS SP. B	8
DIAMESA SP. B	8
PAGASTIA SP.	6
CRICOTOPUS SP. B	26
EUKIEFFERIELLA B	2
ORTHOCLADIUS (EU	2
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	[illegible]
TRISSOCLADIUS SP	12
SIMULIUM SP.	20
PACIFASTICUS SP.	4

Table 16. Continued

27/C-53		27/D-5[illegible]	
EPHEMERELLA INFR	2	HEPTAGENIA SOLIT	[illegible]
HEPTAGENIA SOLIT	6	STENONEMA SP.	12[illegible]
STENONEMA SP.	158	OPHIOGOMPHUS SP.	[illegible]
PROSTOIA BESAMET	2	CHEUMATOPSYCHE	[illegible]
TAENIONEMA PACIF	4	HYDROPSYCHE SP.A	2
OPHIOGOMPHUS SP.	6	HYDROPSYCHE OCCI	[illegible]
CHEUMATOPSYCHE	26	SYMPHITOPS COCKE	[illegible]
HYDROPSYCHE SP.A	10	HYDROPTILA SP.	[illegible]
SYMPHITOPS COCKE	4	CERACLEA SP.	[illegible]
HYDROPTILA SP.	14	PSYCHOMYIA FLAVI	10
CERACLEA SP.	8	PARARGYRACTIS SP	2
PSYCHOMYIA FLAVI	4	DICROTENDIP SP.A	[illegible]
PARARGYRACTIS SP	6	DICROTENDIP SP.C	2
DICROTENDIP SP.A	40	MICROT[illegible]	[illegible]
DICROTENDIP SP.C	2	TANYTA[illegible]	[illegible]6
MICROPSECTR SP.A	4	XENOCHIRONOMUS	[illegible]
MICROTENDIPES SP	28	DIAMESA SP. B	2
PARATANYTARSUS	2	PAGASTIA SP.	[illegible]
TANYTARSUS SP. B	18	CRICOTOPUS SP. B	[illegible]
DIAMESA SP. B	12	EUKIEFFERIELLA [illegible]	[illegible]
PAGASTIA SP.	12	EUKIEFFERIELLA [illegible]	[illegible]
CRICOTOPUS SP. B	76	EUKIEFFERIELLA [illegible]	[illegible]
EUKIEFFERIELLA A	2	ORTHOCLADIUS (EU	[illegible]
EUKIEFFERIELLA B	6	ORTHOCLADIUS [illegible]	[illegible]
EUKIEFFERIELLA E	2	ORTHOCLADIUS [illegible]	[illegible]
EUKIEFFERIELLA F	2	TRISSOCLADIUS SP	[illegible]
HETEROTRISSOCLAD	2	SIMULIUM SP.	[illegible]
ORTHOCLADIUS (EU	20		
ORTHOCLADIUS B	2		
ORTHOCLADIUS MAL	[illegible]		
ORTHOCLADIUS OBU	62		
TRISSOCLADIUS SP	8		
WIEDEMANNIA SP.	2		
SIMULIUM SP.	58		

Table 16. Deep Water Monitoring Stations - Petite Ponar Grab Samples

26/1-53

CHIRONOMUS SP.	1
CRYPTOCHIRONOMUS	2
PARALAUTERBORNIE	5
PHAENOPSECTRA SP	2
POLYPEDILUM SP.B	3
TANYTARSUS SP. C	12
DIAMESA SP. B	1
ORTHOCLADIUS OBU	2
TRISSOCLADIUS SP	2
PROCLADIUS SP. A	53
OLIGOCHAETA	63

26/2-53

CHIRONOMUS SP.	8
CRYPTOCHIRONOMUS	1
PHAENOPSECTRA SP	4
ORTHOCLADIUS OBU	2
TRISSOCLADIUS SP	1
PROCLADIUS SP. A	11
OLIGOCHAETA	95

26/3-53

CRYPTOCHIRONOMUS	1
PARALAUTERBORNIE	1
POLYPEDILUM SP.B	1
TANYTARSUS SP. C	13
ORTHOCLADIUS E	2
TRISSOCLADIUS SP	1
PROCLADIUS SP. A	60
OLIGOCHAETA	106

28A/1-53

PROCLADIUS SP. A	1
OLIGOCHAETA	4

28A/2-53

PROCLADIUS SP. A	10
OLIGOCHAETA	2

28A/3-53

CHIRONOMUS SP.	11
PROCLADIUS SP. A	29
OLIGOCHAETA	21

28B/1-53

CHIRONOMUS SP	16
PROCLADIUS SP. A	3
OLIGOCHAETA	2

28B/2-53

CHIRONOMUS SP.	21
PROCLADIUS SP. A	1
OLIGOCHAETA	2

28B/3-53

CHIRONOMUS SP.	27
PROCLADIUS SP. A	5
OLIGOCHAETA	6

30/2-53*

ORTHOCLADIUS OBU	2

*30/1 and 30/3 have zero counts.

Table 16. Continued

31/A-53	
HYDROPTILA SP.	2
ORTHOCLADIUS OBU	4
LYMNAEA SP.	1

31/B-53	
HYDROPTILA SP.	2
EUKIEFFERIELLA B	1
ORTHOCLADIUS OBU	1
GYRAULUS SP.	4

31/C-53	
CHEUMATOPSYCHE	1
HYDROPTILA SP.	2
CRICOTOPUS SP. B	1
ORTHOCLADIUS OBU	5
GYRAULUS SP.	3

31/D-53	
HYDROPTILA SP.	5
DICROTENDIP SP.A	1
MICROTENDIPES SP	1
DIAMESA SP. B	1
CRICOTOPUS SP. B	2
EUKIEFFERIELLA B	5
ORTHOCLADIUS OBU	4
HYALELLA AZTECA	1
GYRAULUS SP.	4

3/1-53	
CHIRONOMUS SP.	[illegible]
MONODIAMESA SP.	1
EUKIEFFERIELLA B	[illegible]
ORTHOCLADIUS OBU	[illegible]
OLIGOCHAETA	[illegible]

3/2-53	
CHIRONOMUS SP.	7
TANYTARSUS SP. C	[illegible]
DIAMESA SP	1
ORTHOCLADIUS [illegible]	[illegible]
OLIGOCHAETA	[illegible]

3/3-53	
CHIRONOMUS SP.	9
OLIGOCHAETA	5

Table 16. Benthic Macroinvertebrate Sample Counts and Identifications Summer 1985

Shallow Water Stations - Kick Samples

1/A-57	
BAETIS INSIGNIFI	156
BAETIS TRICAUDAT	112
ATTENELLA MARGAR	44
DRUNELLA GRANDIS	36
SERRATELLA TIBIA	40
RHITHROGENA HAGE	24
TRICORYTHODES MI	36
ALLOPERLA-GROUP	8
ISOGENOIDES ELON	12
SKWALA PARALLELA	4
PTERONARCELLA BA	32
ARCTOPSYCHE GRAN	28
CHEUMATOPSYCHE	28
HYDROPSYCHE OCCI	224
SYMPHITOPS COCKE	152
HYDROPTILA SP.	36
NEOTRICHIA SP.	8
OPTIOSERVUS SPP.	60
ZAITZEVIA PARVUL	72
ATHERIX VARIEGAT	20
MICROPSECTR SP.A	4
MICROPSECTR SP.C	8
MICROTENDIPES SP	12
POLYPEDILUM SP.A	84
TANYTARSUS SP. C	20
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	40
EUKIEFFERIELLA E	24
EUKIEFFERIELLA G	4
ORTHOCLADIUS B	28
ORTHOCLADIUS MAL	12
ORTHOCLADIUS OBU	12
ABLABESMYIA SP.	4
CHELIFERA SP.	4
SIMULIUM SP.	4
HEXATOMA SP.	28
OLIGOCHAETA	4

1/B-57	
BAETIS INSIGNIFI	120
BAETIS TRICAUDAT	76
ATTENELLA MARGAR	32
DRUNELLA GRANDIS	12
SERRATELLA TIBIA	36
NIXE SIMPLICIOID	4
RHITHROGENA HAGE	32
TRICORYTHODES MI	16
CLAASSENI SABULO	4
ISOGENOIDES ELON	4
ISOPERLA QUINQUE	4
PTERONARCELLA BA	36
PTERONARCYS CALI	4
ARCTOPSYCHE GRAN	48
CHEUMATOPSYCHE	44
HYDROPSYCHE OCCI	300
SYMPHITOPS COCKE	260
HYDROPTILA SP.	4
OPTIOSERVUS SPP.	24
ZAITZEVIA PARVUL	36
ATHERIX VARIEGAT	24
MICROPSECTR SP.C	8
POLYPEDILUM SP.A	60
TANYTARSUS SP. C	4
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	12
EUKIEFFERIELLA E	40
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	4
SIMULIUM SP.	20
HEXATOMA SP.	28

Table 16. Continued

1/C-57	
BAETIS INSIGNIFI	200
BAETIS TRICAUDAT	144
ATTENELLA MARGAR	72
DRUNELLA GRANDIS	8
SERRATELLA TIBIA	20
EPEORUS ALBERTAE	4
RHITHROGENA HAGE	40
PARALEPTOPHL DEB	4
TRICORYTHODES MI	28
ALLOPERLA-GROUP	4
ZAPADA CINCTIPES	4
CLAASSENI SABULO	20
ISOGENOIDES ELON	12
SKWALA PARALLELA	16
PTERONARCELLA BA	20
ARCTOPSYCHE GRAN	56
CHEUMATOPSYCHE	24
HYDROPSYCHE OCCI	188
SYMPHITOPS COCKE	100
NEOTRICHIA SP.	4
OECETIS SP. A	4
OPTIOSERVUS SPP.	32
ZAITZEVIA PARVUL	64
ATHERIX VARIEGAT	20
MICROPSECTR SP.C	8
POLYPEDILUM SP.A	136
TANYTARSUS SP. C	20
PAGASTIA SP.	8
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	12
EUKIEFFERIELLA E	44
EUKIEFFERIELLA G	4
ORTHOCLADIUS B	8
ORTHOCLADIUS MAL	8
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	12
PSECTROCLADIUS B	8
SYNORTHOCLADIUS	4
ABLABESMYIA SP.	8
CHELIFERA SP.	8
SIMULIUM SP.	8
HEXATOMA SP.	12

1/D-57	
BAETIS HAGENI	8
BAETIS INSIGNIFI	68
BAETIS TRICAUDAT	44
ATTENELLA MARGAR	40
DRUNELLA GRANDIS	12
SERRATELLA TIBIA	28
TIMPANOGA HECUBA	4
NIXE CRIDDLEI	4
NIXE SIMPLICIOID	16
RHITHROGENA HAGE	40
PARALEPTOPHL DEB	4
ALLOPERLA-GROUP	4
CLAASSENI SABULO	4
ISOGENOIDES ELON	4
SKWALA PARALLELA	8
PTERONARCELLA BA	32
PTERONARCYS CALI	8
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	40
CHEUMATOPSYCHE	36
HYDROPSYCHE OCCI	244
SYMPHITOPS COCKE	176
NEOTRICHIA SP.	8
OPTIOSERVUS SPP.	16
ZAITZEVIA PARVUL	52
ATHERIX VARIEGAT	24
MICROPSECTR SP.A	4
MICROPSECTR SP.C	20
POLYPEDILUM SP.A	44
TANYTARSUS SP. C	8
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	8
EUKIEFFERIELLA G	4
HETEROTRISSOCLAD	4
ORTHOCLADIUS MAL	8
ORTHOCLADIUS OBU	4
SIMULIUM SP.	12
PROTANYDERUS SP.	4
ANTOCHA SP.	4
HEXATOMA SP.	28

2/A-57	
BAETIS HAGENI	24
BAETIS INSIGNIFI	18
BAETIS TRICAUDAT	14
DRUNELLA DODDSI	2
SERRATELLA TIBIA	74
EPEORUS ALBERTAE	2
NIXE CRIDDLEI	2
RHITHROGENA HAGE	6
ALLOPERLA-GROUP	4
CALINEURIA CALIF	20
CLAASSENI SABULO	26
SKWALA PARALLELA	8
PTERONARCYS CALI	10
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	44
HYDROPSYCHE OCCI	40
SYMPHITOPS COCKE	20
LEPIDOSTOMA SP.A	2
DICOSMOECUS SP.	6
WORMALDIA SP.	18
OPTIOSERVUS SPP.	72
STELENMIS SP.	2
ZAITZEVIA PARVUL	74
PALPOMY-GP SP. A	2
MICROPSECTR SP.C	588
MICROTENDIPES SP	22
POLYPEDILUM SP.A	44
TANYTARSUS SP. C	2
EUKIEFFERIELLA A	6
EUKIEFFERIELLA E	4
ORTHOCLADIUS B	2
ORTHOCLADIUS MAL	4
THIENEMANIELL SP	2
ABLABESMYIA SP.	2
CHELIFERA SP.	2
ANTOCHA SP.	10
HEXATOMA SP.	16
PHYSA SP.	46
OLIGOCHAETA LUMB	14

2/B-57	
BAETIS HAGENI	16
BAETIS INSIGNIFI	36
BAETIS TRICAUDAT	14
ATTENELLA MARGAR	2
DRUNELLA DODDSI	4
DRUNELLA GRANDIS	4
SERRATELLA TIBIA	58
EPEORUS ALBERTAE	6
RHITHROGENA HAGE	14
ALLOPERLA-GROUP	4
CALINEURIA CALIF	18
CLAASSENI SABULO	16
PTERONARCYS CALI	6
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	52
HYDROPSYCHE OCCI	34
SYMPHITOPS COCKE	28
HYDROPTILA SP.	4
NEOTRICHIA SP.	2
WORMALDIA SP.	10
OPTIOSERVUS SPP.	54
ZAITZEVIA PARVUL	64
MICROPSECTR SP.A	2
MICROPSECTR SP.C	370
MICROTENDIPES SP	12
POLYPEDILUM SP.A	14
TANYTARSUS SP. C	8
EUKIEFFERIELLA A	6
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	8
HETEROTRISSOCLAD	2
ORTHOCLADIUS MAL	8
ORTHOCLADIUS OBU	2
SIMULIUM SP.	6
ANTOCHA SP.	2
HEXATOMA SP.	14
PHYSA SP.	34
OLIGOCHAETA LUMB	2

Table 16. Continued

2/C-57	
BAETIS INSIGNIFI	60
BAETIS TRICAUDAT	32
DRUNELLA DODDSI	8
DRUNELLA GRANDIS	8
SERRATELLA TIBIA	42
EPEORUS ALBERTAE	12
RHITHROGENA HAGE	2
ALLOPERLA-GROUP	2
CALINEURIA CALIF	6
CLAASSENI SABULO	8
PTERONARCYS CALI	2
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	64
HYDROPSYCHE OCCI	42
SYMPHITOPS COCKE	44
LEUCOTRICHIA PIC	2
NEOTRICHIA SP.	8
WORMALDIA SP.	2
PSYCHOMYIA FLAVI	2
RHYACOPHILA ANGE	2
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	84
MICROPSECTR SP.C	284
MICROTENDIPES SP	2
PHAENOPSECTRA SP	2
POLYPEDILUM SP.A	10
TANYTARSUS SP. C	6
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	6
ORTHOCLADIUS MAL	2
ABLABESMYIA SP.	2
SIMULIUM SP.	2
ANTOCHA SP.	2
HEXATOMA SP.	22

2/D-57	
BAETIS HAGENI	10
BAETIS INSIGNIFI	36
BAETIS TRICAUDAT	30
ATTENELLA MARGAR	2
DRUNELLA DODDSI	10
DRUNELLA GRANDIS	2
EPHEMERELLA INFR	2
SERRATELLA TIBIA	58
EPEORUS ALBERTAE	12
RHITHROGENA HAGE	2
ALLOPERLA-GROUP	2
CALINEURIA CALIF	10
CLAASSENI SABULO	8
PTERONARCYS CALI	2
ARCTOPSYCHE GRAN	18
CHEUMATOPSYCHE	26
HYDROPSYCHE OCCI	42
SYMPHITOPS COCKE	46
LEUCOTRICHIA PIC	4
OECETIS SP.	4
DICOSMOECUS SP.	4
WORMALDIA SP.	14
RHYACOPHILA ANGE	2
OPTIOSERVUS SPP.	18
ZAITZEVIA PARVUL	58
MICROPSECTR SP.C	226
MICROTENDIPES SP	4
POLYPEDILUM SP.A	18
TANYTARSUS SP. C	10
EUKIEFFERIELLA B	2
EUKIEFFERIELLA E	6
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	8
CHELIFERA SP.	2
HEXATOMA SP.	12
PHYSA SP.	52
OLIGOCHAETA LUMB	2

4/A-57		4/B-57	
BAETIS HAGENI	20	BAETIS INSIGNIFI	60
BAETIS INSIGNIFI	64	BAETIS TRICAUDAT	156
BAETIS TRICAUDAT	372	ATTENELLA MARGAR	4
DRUNELLA DODDSI	32	DRUNELLA GRANDIS	4
SERRATELLA TIBIA	148	SERRATELLA TIBIA	40
EPEORUS ALBERTAE	28	EPEORUS ALBERTAE	4
RHITHROGENA HAGE	24	NIXE CRIDDLEI	4
HESPEROPERLA PAC	8	RHITHROGENA HAGE	4
ISOGENOIDES ELON	12	TRICORYTHODES MI	12
SKWALA PARALLELA	12	CLAASSENI SABULO	12
PTERONARCELLA BA	32	ISOGENOIDES ELON	4
PTERONARCYS CALI	32	SKWALA PARALLELA	4
ARCTOPSYCHE GRAN	20	PTERONARCELLA BA	8
CHEUMATOPSYCHE	348	PTERONARCYS CALI	4
HYDROPSYCHE OCCI	140	ARCTOPSYCHE GRAN	24
SYMPHITOPS COCKE	444	CHEUMATOPSYCHE	144
HYDROPTILA SP.	48	HYDROPSYCHE OCCI	52
NEOTRICHIA SP.	4	SYMPHITOPS COCKE	188
WORMALDIA SP.	12	HYDROPTILA SP.	60
PSYCHOMYIA FLAVI	16	NEOTRICHIA SP.	4
OPTIOSERVUS SPP.	56	PSYCHOMYIA FLAVI	40
ZAITZEVIA PARVUL	120	PARARGYRACTIS SP	4
MICROPSECTR SP.A	4	OPTIOSERVUS SPP.	28
MICROPSECTR SP.C	52	ZAITZEVIA PARVUL	28
POLYPEDILUM SP.A	240	MICROPSECTR SP.C	52
TANYTARSUS SP. C	4	POLYPEDILUM SP.A	84
PAGASTIA SP.	8	PAGASTIA SP.	4
EUKIEFFERIELLA B	144	CRICOTOPUS SP. B	4
EUKIEFFERIELLA E	8	EUKIEFFERIELLA B	68
EUKIEFFERIELLA G	8	EUKIEFFERIELLA E	4
ORTHOCLADIUS B	28	EUKIEFFERIELLA G	4
ORTHOCLADIUS MAL	12	ORTHOCLADIUS B	16
ORTHOCLADIUS NIG	8	ORTHOCLADIUS MAL	48
ORTHOCLADIUS OBU	16	ORTHOCLADIUS OBU	8
SIMULIUM SP.	40	ANTOCHA SP.	16
ANTOCHA SP.	16	OLIGOCHAETA	4
OLIGOCHAETA	4		
TURBELLARI	8		

Table 16. Continued

4/C-57	
BAETIS HAGENI	8
BAETIS INSIGNIFI	72
BAETIS TRICAUDAT	84
ATTENELLA MARGAR	20
SERRATELLA TIBIA	36
TIMPANOGA HECUBA	4
EPEORUS ALBERTAE	4
TRICORYTHODES MI	12
CLAASSENI SABULO	4
HESPEROPERLA PAC	12
PTERONARCYS CALI	24
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	224
HYDROPSYCHE OCCI	56
SYMPHITOPS COCKE	204
SYMPHITOPS SLOSS	4
HYDROPTILA SP.	52
WORMALDIA SP.	20
PSYCHOMYIA FLAVI	40
PARARGYRACTIS SP	8
OPTIOSERVUS SPP.	16
ZAITZEVIA PARVUL	28
MICROPSECTR SP.C	88
MICROTENDIPES SP	12
POLYPEDILUM SP.A	60
TANYTARSUS SP. C	4
EUKIEFFERIELLA B	8
EUKIEFFERIELLA E	8
ORTHOCLADIUS B	8
ORTHOCLADIUS MAL	20
ORTHOCLADIUS OBU	4
ANTOCHA SP.	8
TURBELLARI	4

4/D-57	
BAETIS HAGENI	12
BAETIS INSIGNIFI	56
BAETIS TRICAUDAT	176
ATTENELLA MARGAR	16
DRUNELLA GRANDIS	16
SERRATELLA TIBIA	92
EPEORUS ALBERTAE	4
RHITHROGENA HAGE	8
CLAASSENI SABULO	12
HESPEROPERLA PAC	8
ISOGENOIDES ELON	4
PTERONARCELLA BA	8
PTERONARCYS CALI	36
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	296
HYDROPSYCHE OCCI	68
SYMPHITOPS COCKE	336
HYDROPTILA SP.	104
NEOTRICHIA SP	12
WORMALDIA SP.	32
PSYCHOMYIA FLAVI	28
OPTIOSERVUS SPP.	48
ZAITZEVIA PARVUL	108
CRYPTOCHIRONOMUS	4
MICROPSECTR SP.A	12
MICROPSECTR SP.C	52
MICROTENDIPES SP	8
POLYPEDILUM SP.A	136
TANYTARSUS SP. C	8
PAGASTIA SP.	8
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	84
EUKIEFFERIELLA E	4
ORTHOCLADIUS B	76
ORTHOCLADIUS MAL	72
ORTHOCLADIUS OBU	20
SIMULIUM SP.	4
ANTOCHA SP.	24

Table 16. Continued

5/A-57	
BAETIS INSIGNIFI	164
BAETIS TRICAUDAT	148
DRUNELLA GRANDIS	8
EPHEMERELLA INFR	4
SERRATELLA TIBIA	68
EPEORUS ALBERTAE	12
HEPTAGENIA SOLIT	4
RHITHROGENA HAGE	4
TRICORYTHODES MI	8
CLAASSENI SABULO	12
HESPEROPERLA PAC	4
ISOGENOIDES ELON	8
SKWALA PARALLELA	4
RHAGOVELIA SP.	8
ARCTOPSYCHE GRAN	12
CHEUMATOPSYCHE	372
HYDROPSYCHE OCCI	124
SYMPHITOPS COCKE	620
PSYCHOMYIA FLAVI	4
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	40
MICROPSECTR SP.A	4
MICROPSECTR SP.C	60
POLYPEDILUM SP.A	52
CRICOTOPUS SP. B	4
EUKIEFFERIELLA B	12
EUKIEFFERIELLA E	12
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	4
SIMULIUM SP.	20
HEXATOMA SP.	8

5/E-57	
BAETIS HAGENI	8
BAETIS INSIGNIFI	96
BAETIS TRICAUDAT	104
SERRATELLA TIBIA	32
TIMPANOGA HECUBA	4
RHITHROGENA HAGE	12
TRICORYTHODES MI	4
CLAASSENI SABULO	4
SKWALA PARALLELA	12
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	268
HYDROPSYCHE OCCI	80
SYMPHITOPS COCKE	276
HYDROPTILA SP.	8
PSYCHOMYIA FLAVI	20
OPTIOSERVUS SPP.	20
ZAITZEVIA PARVUL	24
MICROPSECTR SP.C	32
POLYPEDILUM SP.A	4
EUKIEFFERIELLA B	16
ORTHOCLADIUS B	8
SIMULIUM SP.	56
HEXATOMA SP.	4

5/C-57		5/D-57	
BAETIS HAGENI	4	BAETIS HAGENI	4
BAETIS INSIGNIFI	80	BAETIS INSIGNIFI	236
BAETIS TRICAUDAT	100	BAETIS TRICAUDAT	120
DRUNELLA GRANDIS	4	SERRATELLA TIBIA	28
SERRATELLA TIBIA	32	RHITHROGENA HAGE	8
EPEORUS ALBERTAE	4	ISOGENOIDES ELON	4
RHITHROGENA HAGE	8	SKWALA PARALLELA	8
TRICORYTHODES MI	8	PTERONARCYS CALI	4
CLAASSENI SABULO	8	RHAGOVELIA SP.	4
SKWALA PARALLELA	4	ARCTOPSYCHE GRAN	4
PTERONARCYS CALI	4	CHEUMATOPSYCHE	280
ARCTOPSYCHE GRAN	20	HYDROPSYCHE OCCI	88
CHEUMATOPSYCHE	404	SYMPHITOPS COCKE	328
HYDROPSYCHE OCCI	92	PSYCHOMYIA FLAVI	16
SYMPHITOPS COCKE	388	PARARGYRACTIS SP	8
WORMALDIA SP.	4	OPTIOSERVUS SPP.	20
OPTIOSERVUS SPP.	8	ZAITZEVIA PARVUL	68
ZAITZEVIA PARVUL	112	MICROPSECTR SP.C	28
MICROPSECTR SP.A	4	POLYPEDILUM SP.A	32
MICROPSECTR SP.C	24	EUKIEFFERIELLA B	60
POLYPEDILUM SP.A	40	EUKIEFFERIELLA E	12
EUKIEFFERIELLA B	24	ORTHOCLADIUS B	40
ORTHOCLADIUS B	4	SIMULIUM SP.	68
ORTHOCLADIUS OBU	4	HEXATOMA SP.	4
CHELIFERA SP.	4		
SIMULIUM SP.	96		
HEXATOMA SP.	16		

6/A-57	
BAETIS HAGENI	12
BAETIS INSIGNIFI	112
BAETIS TRICAUDAT	52
CENTROPTILU SP.A	12
ATTENELLA MARGAR	14
EPHEMERELLA INFR	2
SERRATELLA TIBIA	32
TIMPANOGA HECUBA	4
EPEORUS ALBERTAE	6
HEPTAGENIA SOLIT	10
NIXE CRIDDLEI	4
NIXE SIMPLICIOID	14
RHITHROGENA HAGE	4
PARALEPTOPHL BIC	4
PARALEPTOPHL DEB	2
TRICORYTHODES MI	52
ISOGENOIDES ELON	4
SKWALA PARALLELA	12
PTERONARCYS CALI	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	206
HYDROPSYCHE OCCI	66
SYMPHITOPS COCKE	156
HYDROPTILA SP.	2
ZUMATRICHIA NOTO	2
PSYCHOMYIA FLAVI	10
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	26
ATHERIX VARIEGAT	2
MICROPSECTR SP.A	6
MICROPSECTR SP.C	6
MICROTENDIPES SP	4
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	42
TANYTARSUS SP. C	6
CORYNONEURA SP.	2
EUKIEFFERIELLA A	2
EUKIEFFERIELLA B	2
EUKIEFFERIELLA E	18
ORTHOCLADIUS B	16
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	6
PSECTROCLADIUS B	8
SYNORTHOCLADIUS	6
ABLABESMYIA SP.	4
SIMULIUM SP.	4
ANTOCHA SP.	2
HEXATOMA SP.	8

6/B-57	
BAETIS INSIGNIFI	128
BAETIS TRICAUDAT	48
CENTROPTILU SP.A	6
ATTENELLA MARGAR	8
EPHEMERELLA INFR	2
SERRATELLA TIBIA	26
TIMPANOGA HECUBA	2
EPEORUS ALBERTAE	6
HEPTAGENIA SOLIT	8
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	4
RHITHROGENA HAGE	6
PARALEPTOPHL BIC	2
PARALEPTOPHL DEB	6
TRICORYTHODES MI	28
CLAASSENI SABULO	2
ISOGENOIDES ELON	4
SKWALA PARALLELA	4
PTERONARCELLA BA	2
PTERONARCYS CALI	2
PROTOPTILA SP.	2
ARCTOPSYCHE GRAN	10
CHEUMATOPSYCHE	172
HYDROPSYCHE OCCI	12
SYMPHITOPS COCKE	92
HYDROPTILA SP.	2
ZUMATRICHIA NOTO	2
OECETIS SP. A	2
PSYCHOMYIA FLAVI	20
ZAITZEVIA PARVUL	20
MICROPSECTR SP.A	2
MICROPSECTR SP.C	4
MICROTENDIPES SP	4
PHAENOPSECTRA SP	2
POLYPEDILUM SP.A	38
PAGASTIA SP.	2
EUKIEFFERIELLA E	4
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	2
PSECTROCLADIUS B	2
CHELIFERA SP.	2
PROTANYDERUS SP.	2
HEXATOMA SP.	4
PACIFASTICUS SP.	2

6/C-57	
BAETIS HAGENI	8
BAETIS INSIGNIFI	128
BAETIS TRICAUDAT	58
ATTENELLA MARGAR	4
EPHEMERELLA INFR	2
SERRATELLA TIBIA	30
EPEORUS ALBERTAE	8
HEPTAGENIA SOLIT	6
NIXE SIMPLICIOID	2
RHITHROGENA HAGE	2
PARALEPTOPHL BIC	6
TRICORYTHODES MI	6
HESPEROPERLA PAC	2
ISOGENOIDES ELON	6
SKWALA PARALLELA	2
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	162
HYDROPSYCHE OCCI	22
SYMPHITOPS COCKE	134
HYDROPTILA SP.	8
PSYCHOMYIA FLAVI	14
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	16
MICROPSECTR SP.C	2
POLYPEDILUM SP A	18
TANYTARSUS SP. C	2
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	8
ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	4
SYNORTHOCLADIUS	4
THIENEMANIELL SP	2
SIMULIUM SP.	6
ANTOCHA SP.	2
PACIFASTICUS SP.	2

6/D-57	
BAETIS HAGENI	4
BAETIS INSIGNIFI	110
BAETIS TRICAUDAT	16
CENTROPTILU SP.A	2
ATTENELLA MARGAR	8
EPHEMERELLA INFR	2
SERRATELLA TIBIA	14
TIMPANOGA HECUBA	2
EPEORUS ALBERTAE	2
HEPTAGENIA SOLIT	2
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	8
RHITHROGENA HAGE	2
PARALEPTOPHL BIC	4
TRICORYTHODES MI	24
CLAASSENI SABULO	2
ISOGENOIDES ELON	2
SKWALA PARALLELA	4
BRACHYCENTRUS OC	2
CHEUMATOPSYCHE	136
HYDROPSYCHE OCCI	16
SYMPHITOPS COCKE	114
HYDROPTILA SP.	6
OECETIS SP. A	6
PSYCHOMYIA FLAVI	16
NARPUS CONCOLOR	2
ZAITZEVIA PARVUL	6
ATHERIX VARIEGAT	2
MICROPSECTR SP.A	2
MICROPSECTR SP.C	18
MICROTENDIPES SP	4
POLYPEDILUM SP.A	38
TANYTARSUS SP. C	2
EUKIEFFERIELLA B	2
EUKIEFFERIELLA E	6
ORTHOCLADIUS B	10
ORTHOCLADIUS OBU	10
SYNORTHOCLADIUS	2
THIENEMANIELL SP	2
ANTOCHA SP.	2

8/A-57	
BAETIS HAGENI	24
BAETIS INSIGNIFI	140
BAETIS TRICAUDAT	128
CENTROPTILU SP.A	4
SERRATELLA TIBIA	12
TIMPANOGA HECUBA	8
NIXE SIMPLICIOID	12
PARALEPTOPHL BIC	4
PARALEPTOPHL DEB	4
TRICORYTHODES MI	40
ISOGENOIDES ELON	8
SKWALA PARALLELA	8
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	24
CHEUMATOPSYCHE	488
HYDROPSYCHE OCCI	116
SYMPHITOPS COCKE	544
ZUMATRICHIA NOTO	4
WORMALDIA SP.	12
PSYCHOMYIA FLAVI	20
PARARGYRACTIS SP	32
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	28
CHIRONOMUS SP.	124
MICROPSECTR SP.C	4
PHAENOPSECTRA SP	8
POLYPEDILUM SP.A	100
TANYTARSUS SP. A	4
TANYTARSUS SP. C	4
CRICOTOPUS SP. B	16
EUKIEFFERIELLA B	52
EUKIEFFERIELLA E	16
EUKIEFFERIELLA F	4
ORTHOCLADIUS B	20
ORTHOCLADIUS MAL	16
ORTHOCLADIUS OBU	4
SIMULIUM SP.	12
PHYSA SP.	8
OLIGOCHAETA	4

8/B-57	
BAETIS HAGENI	36
BAETIS INSIGNIFI	76
BAETIS TRICAUDAT	148
CENTROPTILU SP.A	4
SERRATELLA TIBIA	8
TIMPANOGA HECUBA	8
NIXE CRIDDLEI	4
NIXE SIMPLICIOID	12
PARALEPTOPHL BIC	4
PARALEPTOPHL DEB	8
TRICORYTHODES MI	72
CLAASSENI SABULO	4
HESPEROPERLA PAC	4
ISOGENOIDES ELON	4
SKWALA PARALLELA	8
ARCTOPSYCHE GRAN	28
CHEUMATOPSYCHE	384
HYDROPSYCHE OCCI	84
SYMPHITOPS COCKE	324
HYDROPTILA SP.	4
PSYCHOMYIA FLAVI	12
OPTIOSERVUS SPP.	32
ZAITZEVIA PARVUL	20
CHIRONOMUS SP.	48
MICROPSECTR SP.C	4
POLYPEDILUM SP.A	156
PAGASTIA SP.	4
CRICOTOPUS SP. B	12
EUKIEFFERIELLA A	12
EUKIEFFERIELLA B	24
EUKIEFFERIELLA E	8
EUKIEFFERIELLA G	8
ORTHOCLADIUS B	20
ORTHOCLADIUS MAL	8
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	8
PSECTROCLADIUS C	8
CHELIFERA SP.	4
SIMULIUM SP.	8
OLIGOCHAETA	4

Table 16. Continued

8/C-57	
BAETIS HAGENI	32
BAETIS INSIGNIFI	76
BAETIS TRICAUDAT	84
CENTROPTILU SP.A	4
ATTENELLA MARGAR	4
DRUNELLA DODDSI	4
EPHEMERELLA INFR	4
SERRATELLA TIBIA	8
TIMPANOGA HECUBA	4
EPEORUS ALBERTAE	8
NIXE SIMPLICIOID	16
PARALEPTOPHL BIC	4
TRICORYTHODES MI	28
HESPEROPERLA PAC	4
ISOGENOIDES ELON	8
SKWALA PARALLELA	8
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	44
CHEUMATOPSYCHE	260
HYDROPSYCHE OCCI	60
SYMPHITOPS COCKE	236
HYDROPTILA SP.	32
PSYCHOMYIA FLAVI	8
PARARGYRACTIS SP	44
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	28
CHIRONOMUS SP.	4
MICROPSECTR SP.C	4
POLYPEDILUM SP.A	92
CRICOTOPUS SP. B	8
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	52
EUKIEFFERIELLA E	16
ORTHOCLADIUS B	36
ORTHOCLADIUS MAL	28
ANTOCHA SP.	8
OLIGOCHAETA	40

8/D-57	
BAETIS HAGENI	24
BAETIS INSIGNIFI	64
BAETIS TRICAUDAT	32
CENTROPTILU SP.A	4
DRUNELLA GRANDIS	4
SERRATELLA TIBIA	8
EPEORUS ALBERTAE	4
HEPTAGENIA SOLIT	8
TRICORYTHODES MI	52
MALENKA SP.	4
HESPEROPERLA PAC	4
ISOGENOIDES ELON	16
SKWALA PARALLELA	12
PTERONARCELLA BA	4
PTERONARCYS CALI	12
BRACHYCENTRUS OC	4
ARCTOPSYCHE GRAN	40
CHEUMATOPSYCHE	332
HYDROPSYCHE OCCI	52
SYMPHITOPS COCKE	208
HYDROPTILA SP	28
ZUMATRICHIA NOTO	4
PSYCHOMYIA FLAVI	16
PARARGYRACTIS SP	28
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	24
CHIRONOMUS SP.	16
POLYPEDILUM SP.A	96
CRICOTOPUS SP. B	20
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	28
EUKIEFFERIELLA E	8
ORTHOCLADIUS B	24
ORTHOCLADIUS MAL	20
ORTHOCLADIUS OBU	12
SYNORTHOCLADIUS	4
ANTOCHA SP.	4
OLIGOCHAETA	8

Table 16. Continued

9/A-57		9/B-57	
BAETIS HAGENI	16	BAETIS HAGENI	12
BAETIS INSIGNIFI	64	BAETIS INSIGNIFI	72
BAETIS TRICAUDAT	4	BAETIS TRICAUDAT	8
CENTROPTILU SP.A	4	ATTENELLA MARGAR	16
ATTENELLA MARGAR	20	EPHEMERELLA INFR	4
EPHEMERELLA INFR	16	SERRATELLA TIBIA	8
SERRATELLA TIBIA	12	TIMPANOGA HECUBA	4
TIMPANOGA HECUBA	12	EPEORUS ALBERTAE	8
HEPTAGENIA SOLIT	20	HEPTAGENIA SOLIT	12
NIXE SIMPLICIOID	8	NIXE SIMPLICIOID	20
RHITHROGENA HAGE	12	PARALEPTOPHL BIC	12
PARALEPTOPHL BIC	16	PARALEPTOPHL DEB	4
PARALEPTOPHL DEB	8	TRICORYTHODES MI	104
TRICORYTHODES MI	148	CLAASSENI SABULO	4
ISOGENOIDES ELON	28	HESPEROPERLA PAC	8
SKWALA PARALLELA	24	ISOGENOIDES ELON	32
PTERONARCYS CALI	4	SKWALA PARALLELA	20
CHEUMATOPSYCHE	256	BRACHYCENTRUS OC	4
HYDROPSYCHE OCCI	36	ARCTOPSYCHE GRAN	8
SYMPHITOPS COCKE	68	CHEUMATOPSYCHE	296
HYDROPTILA SP.	24	HYDROPSYCHE OCCI	84
OECETIS SP. A	4	SYMPHITOPS COCKE	188
PSYCHOMYIA FLAVI	32	HYDROPTILA SP.	68
PARARGYRACTIS SP	28	ZUMATRICHIA NOTO	4
OREODYTES SCITIL	4	OECETIS SP. A	20
OPTIOSERVUS SPP.	12	PSYCHOMYIA FLAVI	32
ZAITZEVIA PARVUL	28	PARARGYRACTIS SP	40
HYDROCHUS SP.	4	OREODYTES SCITIL	4
MICROPSECTR SP.A	4	OPTIOSERVUS SPP.	8
MICROPSECTR SP.C	16	ZAITZEVIA PARVUL	40
MICROTENDIPES SP	16	CHIRONOMUS SP.	4
PHAENOPSECTRA SP	12	MICROPSECTR SP.A	4
POLYPEDILUM SP.A	120	MICROPSECTR SP.C	4
TANYTARSUS SP. C	24	MICROTENDIPES SP	4
PAGASTIA SP.	4	POLYPEDILUM SP.A	84
CRICOTOPUS SP. B	8	TANYTARSUS SP. C	4
EUKIEFFERIELLA A	4	PAGASTIA SP.	4
EUKIEFFERIELLA B	4	CRICOTOPUS SP. B	4
ORTHOCLADIUS B	124	EUKIEFFERIELLA E	8
ORTHOCLADIUS MAL	12	ORTHOCLADIUS B	32
PSECTROCLADIUS B	4	ORTHOCLADIUS MAL	8
PSECTROCLADIUS C	4	PSECTROCLADIUS B	8
ABLABESMYIA SP.	12	PSECTROCLADIUS C	4
CHELIFERA SP.	12	ABLABESMYIA SP.	4
ANTOCHA SP.	8		

9/C-57	
BAETIS HAGENI	28
BAETIS INSIGNIFI	32
BAETIS TRICAUDAT	24
ATTENELLA MARGAR	28
EPHEMERELLA INFR	20
SERRATELLA TIBIA	8
TIMPANOGA HECUBA	4
HEPTAGENIA SOLIT	8
NIXE CRIDDLEI	4
NIXE SIMPLICIOID	8
RHITHROGENA HAGE	16
PARALEPTOPHL BIC	20
TRICORYTHODES MI	116
HESPEROPERLA PAC	4
ISOGENOIDES ELON	12
ISOPERLA QUINQUE	4
SKWALA PARALLELA	8
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	220
HYDROPSYCHE OCCI	68
SYMPHITOPS COCKE	100
HYDROPTILA SP.	44
NEOTRICHIA SP.	4
PSYCHOMYIA FLAVI	32
PARARGYRACTIS SP	28
OREODYTES SCITIL	4
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	56
HYDROCHUS SP.	8
MICROPSECTR SP.C	4
MICROTENDIPES SP	8
PHAENOPSECTRA SP	8
POLYPEDILUM SP.A	56
TANYTARSUS SP. C	4
EUKIEFFERIELLA B	8
EUKIEFFERIELLA E	12
ORTHOCLADIUS B	36
ORTHOCLADIUS MAL	8
PSECTROCLADIUS B	4
WIEDEMANNIA SP.	4
HEXATOMA SP.	4

9/D-57	
BAETIS HAGENI	20
BAETIS INSIGNIFI	72
BAETIS TRICAUDAT	28
ATTENELLA MARGAR	16
EPHEMERELLA INFR	16
TIMPANOGA HECUBA	12
HEPTAGENIA SOLIT	16
NIXE SIMPLICIOID	8
RHITHROGENA HAGE	12
PARALEPTOPHL BIC	4
TRICORYTHODES MI	48
HESPEROPERLA PAC	8
ISOGENOIDES ELON	28
SKWALA PARALLELA	8
CHEUMATOPSYCHE	188
HYDROPSYCHE OCCI	44
SYMPHITOPS COCKE	76
HYDROPTILA SP.	28
NEOTRICHIA SP.	4
OECETIS SP. A	12
WORMALDIA SP.	4
PSYCHOMYIA FLAVI	12
PARARGYRACTIS SP	24
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	28
MICROPSECTR SP.C	8
POLYPEDILUM SP.A	68
TANYTARSUS SP. C	4
EUKIEFFERIELLA B	16
EUKIEFFERIELLA G	4
ORTHOCLADIUS B	8
ORTHOCLADIUS MAL	12
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	16
PSECTROCLADIUS B	4
ABLABESMYIA SP.	4

10/A-57	
BAETIS INSIGNIFI	116
BAETIS TRICAUDAT	160
ATTENELLA MARGAR	40
DRUNELLA GRANDIS	32
SERRATELLA TIBIA	28
NIXE SIMPLICIOID	4
RHITHROGENA HAGE	60
PARALEPTOPHL DEB	4
TRICORYTHODES MI	24
CLAASSENI SABULO	12
ISOGENOIDES ELON	20
SKWALA PARALLELA	16
PTERONARCELLA BA	72
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	72
HYDROPSYCHE OCCI	80
SYMPHITOPS COCKE	44
HYDROPTILA SP.	12
NEOTRICHIA SP.	4
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	160
ZAITZEVIA PARVUL	124
MICROPSECTR SP.A	24
MICROPSECTR SP.C	28
POLYPEDILUM SP.A	104
PAGASTIA SP.	4
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	24
EUKIEFFERIELLA E	16
EUKIEFFERIELLA G	4
ORTHOCLADIUS MAL	4
PSECTROCLADIUS B	4
SYNORTHOCLADIUS	4
THIENEMANIELL SP	4
ABLABESMYIA SP.	16
SIMULIUM SP.	212
OLIGOCHAETA	4
TURBELLARI	4

10/B-57	
BAETIS INSIGNIFI	88
BAETIS TRICAUDAT	40
ATTENELLA MARGAR	20
DRUNELLA GRANDIS	28
SERRATELLA TIBIA	36
RHITHROGENA HAGE	56
TRICORYTHODES MI	12
CLAASSENI SABULO	12
SKWALA PARALLELA	16
PTERONARCELLA BA	40
PROTOPTILA SP.	4
ARCTOPSYCHE GRAN	20
CHEUMATOPSYCHE	132
HYDROPSYCHE OCCI	80
SYMPHITOPS COCKE	44
HYDROPTILA SP.	4
NEOTRICHIA SP.	8
ZUMATRICHIA NOTO	4
OPTIOSERVUS SPP.	96
ZAITZEVIA PARVUL	80
MICROPSECTR SP.A	24
MICROPSECTR SP.C	28
POLYPEDILUM SP.A	48
EUKIEFFERIELLA B	16
EUKIEFFERIELLA E	8
EUKIEFFERIELLA G	4
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	4
CHELIFERA SP.	8
SIMULIUM SP.	240
ANTOCHA SP.	4
OLIGOCHAETA LUMB	8
TURBELLARI	4

Table 16. Continued

10/C-57	
BAETIS HAGENI	4
BAETIS INSIGNIFI	92
BAETIS TRICAUDAT	72
ATTENELLA MARGAR	108
DRUNELLA GRANDIS	28
EPHEMERELLA INFR	8
SERRATELLA TIBIA	52
NIXE CRIDDLEI	4
NIXE SIMPLICIOID	4
RHITHROGENA HAGE	76
PARALEPTOPHL BIC	4
PARALEPTOPHL DEB	4
TRICORYTHODES MI	12
CLAASSENI SABULO	16
ISOGENOIDES ELON	4
SKWALA PARALLELA	12
PTERONARCELLA BA	64
BRACHYCENTRUS OC	4
PROTOPTILA SP.	4
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	56
HYDROPSYCHE OCCI	52
SYMPHITOPS COCKE	120
HYDROPTILA SP.	28
ZUMATRICHIA NOTO	4
PARARGYRACTIS SP	8
OPTIOSERVUS SPP.	152
ZAITZEVIA PARVUL	44
ATHERIX VARIEGAT	4
MICROPSECTR SP.A	60
MICROPSECTR SP.C	4
MICROTENDIPES SP	8
POLYPEDILUM SP.A	72
EUKIEFFERIELLA B	28
EUKIEFFERIELLA E	20
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	4
ORTHOCLADIUS OBU	4
ABLABESMYIA SP.	8
SIMULIUM SP.	44
ANTOCHA SP.	4
OLIGOCHAETA LUMB	8

10/D-57	
BAETIS INSIGNIFI	120
BAETIS TRICAUDAT	160
ATTENELLA MARGAR	44
DRUNELLA GRANDIS	48
SERRATELLA TIBIA	84
EPEORUS ALBERTAE	4
RHITHROGENA HAGE	48
TRICORYTHODES MI	12
CLAASSENI SABULO	40
ISOGENOIDES ELON	16
SKWALA PARALLELA	28
PTERONARCELLA BA	68
BRACHYCENTRUS OC	16
ARCTOPSYCHE GRAN	32
CHEUMATOPSYCHE	60
HYDROPSYCHE OCCI	56
SYMPHITOPS COCKE	68
HYDROPTILA SP.	4
NEOTRICHIA SP.	4
OPTIOSERVUS SPP.	120
ZAITZEVIA PARVUL	124
MICROPSECTR SP.A	32
MICROPSECTR SP.C	28
POLYPEDILUM SP.A	116
POTTHASTIA SP.	4
EUKIEFFERIELLA A	4
EUKIEFFERIELLA B	8
EUKIEFFERIELLA E	20
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	8
THIENEMANIELL SP	8
CHELIFERA SP.	8
SIMULIUM SP.	36
OLIGOCHAETA LUMB	8
TURBELLARI	4

11/A-57	
BAETIS HAGENI	2
BAETIS INSIGNIFI	256
BAETIS TRICAUDAT	116
ATTENELLA MARGAR	10
DRUNELLA GRANDIS	2
SERRATELLA TIBIA	10
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	30
TRICORYTHODES MI	6
CALINEURIA CALIF	4
PTERONARCELLA BA	10
PTERONARCYS CALI	4
ARCTOPSYCHE GRAN	34
CHEUMATOPSYCHE	56
HYDROPSYCHE OCCI	170
SYMPHITOPS COCKE	20
OECETIS SP. A	2
OPTIOSERVUS SPP.	14
ZAITZEVIA PARVUL	10
ATHERIX VARIEGAT	30
MICROPSECTR SP.A	10
MICROPSECTR SP.C	42
PHAENOPSECTRA SP	12
POLYPEDILUM SP.A	20
TANYTARSUS SP. C	8
EUKIEFFERIELLA A	2
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	4
ORTHOCLADIUS OBU	4
ABLABESMYIA SP.	2
CHELIFERA SP.	2
SIMULIUM SP.	20
PROTANYDERUS SP.	2
HEXATOMA SP.	14

11/B-57	
BAETIS HAGENI	4
BAETIS INSIGNIFI	226
BAETIS TRICAUDAT	124
ATTENELLA MARGAR	18
DRUNELLA GRANDIS	2
SERRATELLA TIBIA	28
RHITHROGENA HAGE	52
PARALEPTOPHL DEB	4
TRICORYTHODES MI	10
CALINEURIA CALIF	4
CLAASSENI SABULO	22
PTERONARCELLA BA	34
ARCTOPSYCHE GRAN	14
CHEUMATOPSYCHE	104
HYDROPSYCHE OCCI	200
SYMPHITOPS COCKE	24
OPTIOSERVUS SPP.	18
ZAITZEVIA PARVUL	30
ATHERIX VARIEGAT	44
MICROPSECTR SP.A	20
MICROPSECTR SP.C	18
PHAENOPSECTRA SP	20
POLYPEDILUM SP.A	44
TANYTARSUS SP. C	4
EUKIEFFERIELLA B	18
EUKIEFFERIELLA E	4
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	2
ABLABESMYIA SP.	6
CHELIFERA SP.	2
SIMULIUM SP.	276
HEXATOMA SP.	14

11/C-57	
BAETIS HAGENI	10
BAETIS INSIGNIFI	510
BAETIS TRICAUDAT	216
ATTENELLA MARGAR	32
DRUNELLA GRANDIS	6
SERRATELLA TIBIA	24
TIMPANOGA HECUBA	2
NIXE SIMPLICIOID	2
RHITHROGENA HAGE	112
TRICORYTHODES MI	16
CLAASSENI SABULO	20
ISOGENOIDES ELON	6
SKWALA PARALLELA	6
PTERONARCELLA BA	32
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	44
CHEUMATOPSYCHE	84
HYDROPSYCHE OCCI	302
SYMPHITOPS COCKE	18
ZUMATRICHIA NOTO	2
HYDROPTILA SP.	2
OPTIOSERVUS SPP.	28
ZAITZEVIA PARVUL	54
ATHERIX VARIEGAT	44
MICROPSECTR SP.A	34
MICROPSECTR SP.C	20
MICROTENDIPES SP	6
PHAENOPSECTRA SP	36
POLYPEDILUM SP.A	78
TANYTARSUS SP. C	20
EUKIEFFERIELLA B	4
EUKIEFFERIELLA E	10
HETEROTRISSOCLAD	6
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	8
PSECTROCLADIUS B	2
ABLABESMYIA SP.	12
CHELIFERA SP.	2
SIMULIUM SP.	120
HEXATOMA SP.	46

11/D-57	
BAETIS HAGENI	2
BAETIS INSIGNIFI	412
BAETIS TRICAUDAT	90
ATTENELLA MARGAR	24
DRUNELLA GRANDIS	2
SERRATELLA TIBIA	16
NIXE SIMPLICIOID	12
RHITHROGENA HAGE	24
TRICORYTHODES MI	10
CLAASSENI SABULO	8
ISOGENOIDES ELON	2
PTERONARCELLA BA	22
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	28
CHEUMATOPSYCHE	96
HYDROPSYCHE OCCI	226
SYMPHITOPS COCKE	34
OECETIS SP. A	2
OPTIOSERVUS SPP.	18
ZAITZEVIA PARVUL	18
ATHERIX VARIEGAT	60
MICROPSECTR SP.A	16
MICROPSECTR SP.C	40
MICROTENDIPES SP	4
PHAENOPSECTRA SP	20
POLYPEDILUM SP.A	24
TANYTARSUS SP. C	12
EUKIEFFERIELLA B	10
EUKIEFFERIELLA E	6
ORTHOCLADIUS MAL	6
ORTHOCLADIUS OBU	4
PSECTROCLADIUS B	4
ABLABESMYIA SP.	8
CHELIFERA SP.	2
SIMULIUM SP.	12
PROTANYDERUS SP.	2
HEXATOMA SP.	26

13/A-57		13/B-57	
BAETIS HAGENI	2	BAETIS INSIGNIFI	104
BAETIS INSIGNIFI	118	BAETIS TRICAUDAT	10
BAETIS TRICAUDAT	70	CENTROPTILU SP.A	6
ATTENELLA MARGAR	76	ATTENELLA MARGAR	72
EPHEMERELLA INFR	2	HEPTAGENIA SOLIT	8
SERRATELLA TIBIA	6	NIXE SIMPLICIOID	50
HEPTAGENIA SOLIT	2	RHITHROGENA HAGE	18
NIXE SIMPLICIOID	28	TRICORYTHODES MI	22
RHITHROGENA HAGE	18	CALINEURIA CALIF	4
PARALEPTOPHL BIC	4	CLAASSENI SABULO	6
TRICORYTHODES MI	28	ISOGENOIDES ELON	20
CLAASSENI SABULO	12	SKWALA PARALLELA	10
ISOGENOIDES ELON	30	PTERONARCELLA BA	4
ISOPERLA QUINQUE	2	PTERONARCYS CALI	4
SKWALA PARALLELA	8	BRACHYCENTRUS OC	2
PTERONARCELLA BA	2	ARCTOPSYCHE GRAN	10
BRACHYCENTRUS OC	6	CHEUMATOPSYCHE	64
ARCTOPSYCHE GRAN	6	HYDROPSYCHE OCCI	62
CHEUMATOPSYCHE	90	SYMPHITOPS COCKE	38
HYDROPSYCHE OCCI	88	HYDROPTILA SP.	12
SYMPHITOPS COCKE	46	CERACLEA SP.	4
HYDROPTILA SP.	10	OECETIS SP. A	4
ZUMATRICHIA NOTO	4	OPTIOSERVUS SPP.	12
OECETIS SP. A	10	ZAITZEVIA PARVUL	14
OPTIOSERVUS SPP.	24	HYDROCHUS SP.	2
ZAITZEVIA PARVUL	26	ATHERIX VARIEGAT	8
ATHERIX VARIEGAT	8	MICROPSECTR SP.A	32
MICROPSECTR SP.A	24	MICROPSECTR SP.C	2
MICROPSECTR SP.C	8	MICROTENDIPES SP	12
MICROTENDIPES SP	18	PHAENOPSECTRA SP	12
PHAENOPSECTRA SP	6	POLYPEDILUM SP.A	14
POLYPEDILUM SP.A	32	TANYTARSUS SP. C	6
TANYTARSUS SP. C	4	XENOCHIRONOMUS	2
EUKIEFFERIELLA B	12	CRICOTOPUS SP. B	2
EUKIEFFERIELLA E	10	EUKIEFFERIELLA B	16
ORTHOCLADIUS B	4	HETEROTRISSOCLAD	2
ORTHOCLADIUS MAL	8	ORTHOCLADIUS B	4
ORTHOCLADIUS OBU	6	ORTHOCLADIUS MAL	6
PSECTROCLADIUS B	10	ORTHOCLADIUS OBU	2
ABLABESMYIA SP.	10	ABLABESMYIA SP.	10
SIMULIUM SP.	4	HEXATOMA SP.	4
HEXATOMA SP.	6		

Table 16. Continued

13/C-57		13/D-57	
BAETIS INSIGNIFI	140	BAETIS HAGENI	4
BAETIS TRICAUDAT	26	BAETIS INSIGNIFI	62
CENTROPTILU SP.A	2	BAETIS TRICAUDAT	34
ATTENELLA MARGAR	38	ATTENELLA MARGAR	62
EPHEMERELLA INFR	2	DRUNELLA GRANDIS	4
SERRATELLA TIBIA	8	SERRATELLA TIBIA	4
HEPTAGENIA SOLIT	4	NIXE SIMPLICIOID	42
NIXE SIMPLICIOID	40	RHITHROGENA HAGE	16
RHITHROGENA HAGE	14	PARALEPTOPHL DEB	2
TRICORYTHODES MI	24	TRICORYTHODES MI	28
CLAASSENI SABULO	6	CLAASSENI SABULO	6
ISOGENOIDES ELON	24	ISOGENOIDES ELON	14
SKWALA PARALLELA	2	SKWALA PARALLELA	12
PTERONARCELLA BA	2	PTERONARCELLA BA	2
PTERONARCYS CALI	2	ARCTOPSYCHE GRAN	8
SIGARA SP.	2	CHEUMATOPSYCHE	48
BRACHYCENTRUS OC	2	HYDROPSYCHE OCCI	90
ARCTOPSYCHE GRAN	10	SYMPHITOPS COCKE	38
CHEUMATOPSYCHE	84	HYDROPTILA SP.	2
HYDROPSYCHE OCCI	76	OECETIS SP. A	8
SYMPHITOPS COCKE	28	PSYCHOMYIA FLAVI	4
HYDROPTILA SP.	10	OREODYTES SCITIL	2
OECETIS SP. A	2	OPTIOSERVUS SPP.	6
OREODYTES SCITIL	2	ZAITZEVIA PARVUL	8
OPTIOSERVUS SPP.	8	ATHERIX VARIEGAT	2
ZAITZEVIA PARVUL	16	MICROPSECTR SP.A	18
ATHERIX VARIEGAT	2	MICROPSECTR SP.C	6
DICROTENDIP SP.C	2	MICROTENDIPES SP	6
MICROPSECTR SP.A	26	PHAENOPSECTRA SP	6
MICROPSECTR SP.C	8	POLYPEDILUM SP.A	34
MICROTENDIPES SP	14	TANYTARSUS SP. C	6
PHAENOPSECTRA SP	4	EUKIEFFERIELLA B	6
POLYPEDILUM SP.A	22	EUKIEFFERIELLA E	8
TANYTARSUS SP. C	8	ORTHOCLADIUS B	4
CORYNONEURA SP.	2	PSECTROCLADIUS B	6
CRICOTOPUS SP. B	2	SYNORTHOCLADIUS	2
EUKIEFFERIELLA B	16	ABLABESMYIA SP.	10
EUKIEFFERIELLA E	2	HEXATOMA SP.	6
ORTHOCLADIUS B	4	OLIGOCHAETA	2
ORTHOCLADIUS MAL	6	OLIGOCHAETA LUMB	2
ORTHOCLADIUS OBU	2		
ABLABESMYIA SP.	2		
CHELIFERA SP.	2		
HEXATOMA SP.	20		
OLIGOCHAETA	2		

14/A-57	
BAETIS HAGENI	2
BAETIS INSIGNIFI	70
BAETIS TRICAUDAT	24
CENTROPTILU SP.A	14
ATTENELLA MARGAR	82
TIMPANOGA HECUBA	4
HEPTAGENIA SOLIT	16
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	54
RHITHROGENA HAGE	6
PARALEPTOPHL BIC	26
PARALEPTOPHL DEB	16
TRICORYTHODES MI	110
CLAASSENI SABULO	8
ISOGENOIDES ELON	28
SKWALA PARALLELA	6
OPHIOGOMPHUS SP.	4
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	44
HYDROPSYCHE OCCI	10
SYMPHITOPS COCKE	8
HYDROPTILA SP.	18
OECETIS SP. A	6
PSYCHOMYIA FLAVI	2
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	2
BRYCHIUS SP.	4
CRYPTOCHIRONOMUS	2
MICROPSECTR SP.A	12
MICROPSECTR SP.C	12
MICROTENDIPES SP	128
PHAENOPSECTRA SP	48
POLYPEDILUM SP.A	26
TANYTARSUS SP. C	16
CRICOTOPUS SP. B	2
ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	10
SYNORTHOCLADIUS	2
ABLABESMYIA SP.	12
HEXATOMA SP.	6
OLIGOCHAETA	24

14/B-57	
BAETIS INSIGNIFI	88
CENTROPTILU SP.A	4
CAENIS SIMULANS	2
ATTENELLA MARGAR	20
EPHEMERELLA INFR	2
HEPTAGENIA SOLIT	2
NIXE SIMPLICIOID	18
PARALEPTOPHL BIC	4
TRICORYTHODES MI	40
ISOGENOIDES ELON	2
CHEUMATOPSYCHE	24
HYDROPSYCHE OCCI	14
SYMPHITOPS COCKE	2
HYDROPTILA SP.	12
ZUMATRICHIA NOTO	2
OECETIS SP. A	2
PSYCHOMYIA FLAVI	2
OREODYTES SCITIL	2
ZAITZEVIA PARVUL	4
ATHERIX VARIEGAT	2
MICROPSECTR SP.A	10
MICROTENDIPES SP	32
PHAENOPSECTRA SP	2
POLYPEDILUM SP.A	14
TANYTARSUS SP. C	6
MONODIAMESA SP.	2
CORYNONEURA SP.	2
EUKIEFFERIELLA B	6
ORTHOCLADIUS B	6
ORTHOCLADIUS NIG	2
ORTHOCLADIUS OBU	8
PSECTROCLADIUS B	2
SYNORTHOCLADIUS	2
ABLABESMYIA SP.	4
HEXATOMA SP.	4
OLIGOCHAETA	18

14/C-57	
BAETIS INSIGNIFI	62
BAETIS TRICAUDAT	4
CENTROPTILU SP.A	2
ATTENELLA MARGAR	10
EPEORUS ALBERTAE	2
HEPTAGENIA SOLIT	4
NIXE SIMPLICIOID	24
RHITHROGENA HAGE	2
PARALEPTOPHL BIC	4
TRICORYTHODES MI	22
CLAASSENI SABULO	6
ISOGENOIDES ELON	4
SKWALA PARALLELA	2
CHEUMATOPSYCHE	12
HYDROPSYCHE OCCI	6
SYMPHITOPS COCKE	2
HYDROPTILA SP.	18
ZAITZEVIA PARVUL	2
MICROPSECTR SP.C	2
MICROTENDIPES SP	28
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	14
TANYTARSUS SP. C	4
EUKIEFFERIELLA B	4
ORTHOCLADIUS B	10
ORTHOCLADIUS MAL	2
ORTHOCLADIUS OBU	4
PSECTROCLADIUS B	2
SYNORTHOCLADIUS	2
ABLABESMYIA SP.	6
CHELIFERA SP.	2
HYALELLA AZTECA	2
OLIGOCHAETA	4

14/D-57	
BAETIS INSIGNIFI	106
BAETIS TRICAUDAT	2
CAENIS SIMULANS	2
ATTENELLA MARGAR	36
SERRATELLA TIBIA	2
TIMPANOGA HECUBA	4
HEPTAGENIA SOLIT	4
NIXE CRIDDLEI	8
NIXE SIMPLICIOID	42
PARALEPTOPHL BIC	20
PARALEPTOPHL DEB	2
TRICORYTHODES MI	78
CALINEURIA CALI	2
CLAASSENI SABULO	4
ISOGENOIDES ELON	18
SKWALA PARALLELA	4
CHEUMATOPSYCHE	24
HYDROPSYCHE OCCI	6
SYMPHITOPS COCKE	2
HYDROPTILA SP.	14
ZUMATRICHIA NOTO	2
CERACLEA SP.	2
OECETIS SP. A	4
PSYCHOMYIA FLAVI	8
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	4
ZAITZEVIA PARVUL	6
BRYCHIUS SP.	2
MICROPSECTR SP.A	8
MICROPSECTR SP.C	4
MICROTENDIPES SP	40
PHAENOPSECTRA SP	2
POLYPEDILUM SP.A	6
TANYTARSUS SP. C	2
CRICOTOPUS SP. B	4
EUKIEFFERIELLA A	2
ORTHOCLADIUS B	6
ORTHOCLADIUS OBU	2
PSECTROCLADIUS B	6
ABLABESMYIA SP.	2
LEBERTIA SP.	2
OLIGOCHAETA	6

15/A-57	
BAETIS INSIGNIFI	54
BAETIS TRICAUDAT	2
CENTROPTILU SP.A	6
ATTENELLA MARGAR	46
HEPTAGENIA SOLIT	8
NIXE CRIDDLEI	6
NIXE SIMPLICIOID	34
RHITHROGENA HAGE	4
PARALEPTOPHL BIC	10
PARALEPTOPHL DEB	2
TRICORYTHODES MI	106
CLAASSENI SABULO	6
ISOGENOIDES ELON	32
SIGARA SP.	10
BRACHYCENTRUS OC	2
CHEUMATOPSYCHE	26
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	2
HYDROPTILA SP.	18
ZUMATRICHIA NOTO	2
CERACLEA SP.	2
PSYCHOMYIA FLAVI	2
OREODYTES SCITIL	10
OPTIOSERVUS SPP.	6
ZAITZEVIA PARVUL	2
CRYPTOCHIRONOMUS	2
MICROPSECTR SP.A	6
MICROPSECTR SP.C	24
MICROTENDIPES SP	18
PHAENOPSECTRA SP	10
POLYPEDILUM SP.A	28
TANYTARSUS SP. C	30
CORYNONEURA SP.	2
CRICOTOPUS SP. B	4
ORTHOCLADIUS B	8
ORTHOCLADIUS OBU	8
PSECTROCLADIUS B	2
ABLABESMYIA SP.	28

15/B-57	
BAETIS HAGENI	8
BAETIS INSIGNIFI	80
BAETIS TRICAUDAT	86
CENTROPTILU SP.A	2
ATTENELLA MARGAR	40
EPHEMERELLA INFR	2
SERRATELLA TIBIA	10
TIMPANOGA HECUBA	4
HEPTAGENIA SOLIT	6
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	60
RHITHROGENA HAGE	96
PARALEPTOPHL DEB	2
AMELETUS VELOX	2
TRICORYTHODES MI	34
CLAASSENI SABULO	50
HESPEROPERLA PAC	2
ISOGENOIDES ELON	70
SKWALA PARALLELA	12
PTERONARCELLA BA	12
PROTOPTILA SP.	2
CHEUMATOPSYCHE	64
HYDROPSYCHE OCCI	90
SYMPHITOPS COCKE	2
OREODYTES SCITIL	10
OPTIOSERVUS SPP.	16
ZAITZEVIA PARVUL	18
MICROPSECTR SP.A	24
MICROPSECTR SP.C	40
MICROTENDIPES SP	16
PHAENOPSECTRA SP	18
POLYPEDILUM SP.A	78
TANYTARSUS SP. C	20
EUKIEFFERIELLA E	4
HETEROTRISSOCLAD	2
ORTHOCLADIUS B	2
PSECTROCLADIUS B	4
ABLABESMYIA SP.	24
CHELIFERA SP.	2
SIMULIUM SP.	40
HEXATOMA SP.	4

Table 16. Continued

15/C-57	
BAETIS HAGENI	2
BAETIS INSIGNIFI	92
BAETIS TRICAUDAT	6
CENTROPTILU SP.A	2
ATTENELLA MARGAR	60
SERRATELLA TIBIA	2
HEPTAGENIA SOLIT	2
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	60
RHITHROGENA HAGE	4
PARALEPTOPHL BIC	10
PARALEPTOPHL DEB	4
TRICORYTHODES MI	124
ISOGENOIDES ELON	12
PTERONARCELLA BA	2
SIGARA SP.	10
BRACHYCENTRUS OC	2
ARCTOPSYCHE GRAN	10
CHEUMATOPSYCHE	48
HYDROPSYCHE OCCI	30
SYMPHITOPS COCKE	8
HYDROPTILA SP.	30
ZUMATRICHIA NOTO	8
PSYCHOMYIA FLAVI	2
PARARGYRACTIS SP	2
ZAITZEVIA PARVUL	6
CRYPTOCHIRONOMUS	2
MICROPSECTR SP.A	10
MICROPSECTR SP.C	12
MICROTENDIPES SP	28
POLYPEDILUM SP.A	38
TANYTARSUS SP. C	12
EUKIEFFERIELLA B	2
EUKIEFFERIELLA E	2
ORTHOCLADIUS B	4
ORTHOCLADIUS MAL	2
ORTHOCLADIUS NIG	2
ORTHOCLADIUS OBU	10
PSECTROCLADIUS B	6
SYNORTHOCLADIUS	2
ABLABESMYIA SP.	16
OLIGOCHAETA	2

15/D-57	
BAETIS HAGENI	4
BAETIS INSIGNIFI	[illegible]
BAETIS TRICAUDAT	100
ATTENELLA MARGAR	40
EPHEMERELLA INFR	2
SERRATELLA TIBIA	8
EPEORUS ALBERTAE	4
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	32
RHITHROGENA HAGE	96
PARALEPTOPHL BIC	2
TRICORYTHODES MI	30
CLAASSENI SABULO	24
ISOGENOIDES ELON	34
SKWALA PARALLELA	6
PTERONARCELLA BA	4
BRACHYCENTRUS OC	4
CHEUMATOPSYCHE	86
HYDROPSYCHE OCCI	70
SYMPHITOPS COCKE	4
HYDROPTILA SP.	2
OREODYTES SCITIL	8
OPTIOSERVUS SPP.	16
ZAITZEVIA PARVUL	14
CRYPTOCHIRONOMUS	2
MICROPSECTR SP.A	26
MICROPSECTR SP.C	38
MICROTENDIPES SP	14
PHAENOPSECTRA SP	8
POLYPEDILUM SP.A	70
TANYTARSUS SP. C	28
EUKIEFFERIELLA E	8
PSECTROCLADIUS B	4
ABLABESMYIA SP.	12
CHELIFERA SP.	2
PROTANYDERUS SP.	2
HEXATOMA SP.	10

19/A-57	
BAETIS INSIGNIFI	72
BAETIS TRICAUDAT	24
ATTENELLA MARGAR	20
DRUNELLA GRANDIS	4
EPEORUS ALBERTAE	4
HEPTAGENIA SOLIT	28
TRICORYTHODES MI	4
CLAASSENI SABULO	4
ISOGENOIDES ELON	4
SKWALA PARALLELA	4
PROTOPTILA SP.	12
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	404
HYDROPSYCHE OCCI	184
SYMPHITOPS COCKE	56
SYMPHITOPS SLOSS	20
HYDROPTILA SP.	20
ZUMATRICHIA NOTO	4
CERACLEA SP.	12
PSYCHOMYIA FLAVI	12
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	16
MICROPSECTR SP.A	24
MICROTENDIPES SP	12
POLYPEDILUM SP.A	84
XENOCHIRONOMUS	8
PAGASTIA SP.	4
EUKIEFFERIELLA E	4
ORTHOCLADIUS B	12
ORTHOCLADIUS OBU	8
ABLABESMYIA SP.	4

19/B-57	
BAETIS INSIGNIFI	72
BAETIS TRICAUDAT	24
ATTENELLA MARGAR	16
EPHEMERELLA INFR	4
SERRATELLA TIBIA	8
EPEORUS ALBERTAE	16
HEPTAGENIA SOLIT	28
RHITHROGENA HAGE	4
TRICORYTHODES MI	8
CLAASSENI SABULO	4
SKWALA PARALLELA	8
OPHIOGOMPHUS SP.	4
PROTOPTILA SP.	12
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	348
HYDROPSYCHE OCCI	152
SYMPHITOPS COCKE	72
SYMPHITOPS SLOSS	40
HYDROPTILA SP.	8
ZUMATRICHIA NOTO	4
OECETIS SP. A	4
PSYCHOMYIA FLAVI	20
PARARGYRACTIS SP	4
OPTIOSERVUS SPP.	12
ZAITZEVIA PARVUL	8
MICROPSECTR SP.A	16
MICROTENDIPES SP	16
PHAENOPSECTRA SP	8
POLYPEDILUM SP.A	104
TANYTARSUS SP. C	4
EUKIEFFERIELLA A	8
EUKIEFFERIELLA B	8
EUKIEFFERIELLA E	20
ORTHOCLADIUS B	12
ORTHOCLADIUS MAL	8
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	20
PSECTROCLADIUS B	4
TURBELLARI	4

19/C-57	
BAETIS INSIGNIFI	92
BAETIS TRICAUDAT	76
ATTENELLA MARGAR	32
DRUNELLA GRANDIS	24
SERRATELLA TIBIA	8
EPEORUS ALBERTAE	4
HEPTAGENIA SOLIT	32
NIXE SIMPLICIOID	4
BRACHYCENTRUS OC	4
PROTOPTILA SP.	16
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	660
HYDROPSYCHE OCCI	312
SYMPHITOPS COCKE	104
SYMPHITOPS SLOSS	36
HYDROPTILA SP.	8
LEUCOTRICHIA PIC	4
NEOTRICHIA SP.	4
ZUMATRICHIA NOTO	4
CERACLEA SP.	4
OECETIS SP. A	16
PSYCHOMYIA FLAVI	16
ZAITZEVIA PARVUL	16
MICROPSECTR SP.A	40
MICROPSECTR SP.C	8
MICROTENDIPES SP	8
POLYPEDILUM SP.A	164
TANYTARSUS SP. C	4
XENOCHIRONOMUS	4
EUKIEFFERIELLA A	12
EUKIEFFERIELLA E	16
ORTHOCLADIUS B	12
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	8
ANTOCHA SP.	4
TURBELARI	24

19/D-57	
BAETIS INSIGNIFI	36
BAETIS TRICAUDAT	12
ATTENELLA MARGAR	8
DRUNELLA GRANDIS	4
EPHEMERELLA INFR	4
SERRATELLA TIBIA	8
TIMPANOGA HECUBA	4
HEPTAGENIA SOLIT	20
ISOGENOIDES ELON	4
PROTOPTILA SP.	20
CHEUMATOPSYCHE	520
HYDROPSYCHE OCCI	220
SYMPHITOPS COCKE	64
SYMPHITOPS SLOSS	32
HYDROPTILA SP.	4
CERACLEA SP.	8
OECETIS SP. A	4
PSYCHOMYIA FLAVI	16
PARARGYRACTIS SP	12
OPTIOSERVUS SPP.	8
MICROPSECTR SP.A	24
MICROPSECTR SP.C	4
MICROTENDIPES SP	8
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	88
TANYTARSUS SP. C	1.6
CORYNONEURA SP.	4
EUKIEFFERIELLA B	20
EUKIEFFERIELLA E	8
ORTHOCLADIUS B	20
ORTHOCLADIUS MAL	4
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	24
ABLABESMYIA SP.	8
TURBELLARI	16

21/A-57	
BAETIS HAGENI	4
BAETIS INSIGNIFI	32
BAETIS TRICAUDAT	28
ATTENELLA MARGAR	8
EPHEMERELLA INFR	8
SERRATELLA TIBIA	28
TIMPANOGA HECUBA	12
EPEORUS ALBERTAE	12
HEPTAGENIA SOLIT	8
CLAASSENI SABULO	4
ISOGENOIDES ELON	4
PTERONARCYS CALI	4
BRACHYCENTRUS OC	8
ARCTOPSYCHE GRAN	16
CHEUMATOPSYCHE	272
HYDROPSYCHE OCCI	20
SYMPHITOPS COCKE	12
SYMPHITOPS SLOSS	16
HYDROPTILA SP.	48
NEOTRICHIA SP.	8
CERACLEA SP.	12
OECETIS SP. A	4
PSYCHOMYIA FLAVI	12
ZAITZEVIA PARVUL	8
CRYPTOCHIRONOMUS	4
MICROPSECTR SP.A	4
MICROPSECTR SP.C	32
MICROTENDIPES SP	88
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	152
EUKIEFFERIELLA E	20
ORTHOCLADIUS NIG	8
ORTHOCLADIUS OBU	40
SYNORTHOCLADIUS	4
ABLABESMYIA SP.	40
SIMULIUM SP.	4
TURBELLARI	4

21/B-57	
BAETIS HAGENI	4
BAETIS INSIGNIFI	40
BAETIS TRICAUDAT	16
ATTENELLA MARGAR	16
EPHEMERELLA INFR	16
SERRATELLA TIBIA	16
TIMPANOGA HECUBA	4
EPEORUS ALBERTAE	16
HEPTAGENIA SOLIT	12
PARALEPTOPHL BIC	4
TRICORYTHODES MI	8
CLAASSENI SABULO	8
ISOGENOIDES ELON	12
PTERONARCYS CALI	4
SIGARA SP.	4
BRACHYCENTRUS OC	12
ARCTOPSYCHE GRAN	8
CHEUMATOPSYCHE	268
HYDROPSYCHE OCCI	28
SYMPHITOPS SLOSS	16
HYDROPTILA SP.	12
CERACLEA SP.	4
OECETIS SP. A	4
PSYCHOMYIA FLAVI	4
ZAITZEVIA PARVUL	4
MICROPSECTR SP.A	4
MICROPSECTR SP.C	8
MICROTENDIPES SP	80
POLYPEDILUM SP.A	40
EUKIEFFERIELLA A	8
EUKIEFFERIELLA E	4
ORTHOCLADIUS NIG	36
ORTHOCLADIUS OBU	16
ABLABESMYIA SP.	8
OLIGOCHAETA	4
TURBELLARI	16

Table 16. Continued

21/C-57	
BAETIS HAGENI	8
BAETIS INSIGNIFI	8
BAETIS TRICAUDAT	12
ATTENELLA MARGAR	4
DRUNELLA GRANDIS	4
SERRATELLA TIBIA	12
TIMPANOGA HECUBA	8
EPEORUS ALBERTAE	8
HEPTAGENIA SOLIT	8
PARALEPTOPHL DEB	4
CLAASSENI SABULO	4
ISOGENOIDES ELON	4
BRACHYCENTRUS OC	8
ARCTOPSYCHE GRAN	4
CHEUMATOPSYCHE	212
HYDROPSYCHE OCCI	40
SYMPHITOPS COCKE	20
SYMPHITOPS SLOSS	8
HYDROPTILA SP.	16
LEUCOTRICHIA PIC	4
NEOTRICHIA SP.	4
CERACLEA SP.	20
OECETIS SP. A	12
PSYCHOMYIA FLAVI	8
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	12
MICROPSECTR SP.A	4
MICROPSECTR SP.C	8
MICROTENDIPES SP	52
PHAENOPSECTRA SP	4
POLYPEDILUM SP.A	48
EUKIEFFERIELLA E	12
EUKIEFFERIELLA G	4
ORTHOCLADIUS NIG	4
ORTHOCLADIUS OBU	16
ABLABESMYIA SP.	8
SIMULIUM SP.	8
OLIGOCHAETA LUMB	4
TURBELLARI	24

21/D-57	
BAETIS HAGENI	12
BAETIS INSIGNIFI	12
BAETIS TRICAUDAT	20
DRUNELLA GRANDIS	12
EPHEMERELLA INFR	12
SERRATELLA TIBIA	16
TIMPANOGA HECUBA	16
EPEORUS ALBERTAE	12
HEPTAGENIA SOLIT	16
PARALEPTOPHL BIC	4
TRICORYTHODES MI	4
SKWALA PARALLELA	4
BRACHYCENTRUS OC	8
PROTOPTILA SP.	4
ARCTOPSYCHE GRAN	20
CHEUMATOPSYCHE	396
HYDROPSYCHE OCCI	64
SYMPHITOPS COCKE	32
SYMPHITOPS SLOSS	16
HYDROPTILA SP.	136
LEPIDOSTOMA SP.A	4
CERACLEA SP.	20
PSYCHOMYIA FLAVI	8
OPTIOSERVUS SPP.	8
ZAITZEVIA PARVUL	24
MICROPSECTR SP.A	4
MICROPSECTR SP.C	24
MICROTENDIPES SP	112
POLYPEDILUM SP.A	228
XENOCHIRONOMUS	4
PAGASTIA SP.	4
CORYNONEURA SP.	4
EUKIEFFERIELLA A	4
EUKIEFFERIELLA E	12
ORTHOCLADIUS MAL	4
ORTHOCLADIUS NIG	72
ORTHOCLADIUS OBU	196
PSECTROCLADIUS B	20
SYNORTHOCLADIUS	8
ABLABESMYIA SP.	64
OLIGOCHAETA LUMB	4
TURBELLARI	12

23/A-57	
BAETIS HAGENI	1
BAETIS INSIGNIFI	2
BAETIS TRICAUDAT	2
CENTROPTILU SP.B	4
CAENIS SIMULANS	1
HEPTAGENIA SOLIT	5
NIXE SIMPLICIOID	2
STENONEMA SP.	6
PARALEPTOPHL BIC	19
PARALEPTOPHL DEB	13
CHEUMATOPSYCHE	1
LEPIDOSTOMA SP.A	1
POLYCENTROPUS SP	1
OREODYTES SCITIL	1
DUBIRAPHIA SP.	6
MICROTENDIPES SP	3
PARACHIRONOMUS	2
PAGASTIA SP.	1
CORYNONEURA SP.	1
ORTHOCLADIUS OBU	11
PSECTROCLADIUS B	1
SYNORTHOCLADIUS	2
HYALELLA AZTECA	7
GYRAULUS SP.	10
PHYSA SP.	19
OLIGOCHAETA	2
OLIGOCHAETA LUMB	10
TURBELLARI	1

23/B-57	
BAETIS INSIGNIFI	2
BAETIS TRICAUDAT	5
CENTROPTILU SP.B	1
HEPTAGENIA SOLIT	1
NIXE CRIDDLEI	1
STENONEMA SP.	2
PARALEPTOPHL BIC	3
PARALEPTOPHL DEB	2
OPHIOGOMPHUS SP.	1
LEPIDOSTOMA SP.A	1
OREODYTES SCITIL	1
DUBIRAPHIA SP.	8
ZAITZEVIA PARVUL	1
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.C	6
MICROTENDIPES SP	1
CORYNONEURA SP.	1
EUKIEFFERIELLA E	1
ORTHOCLADIUS OBU	9
SYNORTHOCLADIUS	3
THIENEMANIELL SP	1
HYALELLA AZTECA	15
GYRAULUS SP.	12
LYMNAEA SP.	2
PHYSA SP.	23
PISIDIUM SP.	1
OLIGOCHAETA	2
OLIGOCHAETA LUMB	8
TURBELLARI	2

Table 16. Continued

23/C-57	
BAETIS TRICAUDAT	5
CENTROPTILU SP.B	1
ATTENELLA MARGAR	1
NIXE CRIDDLEI	1
NIXE SIMPLICIOID	1
STENONEMA SP.	8
PARALEPTOPHL BIC	4
PARALEPTOPHL DEB	1
LEPIDOSTOMA SP.A	1
CERACLEA SP.	8
MYSTACIDES SP.	1
POLYCENTROPUS SP	1
OREODYTES SCITIL	1
DUBIRAPHIA SP.	2
ZAITZEVIA PARVUL	1
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.C	2
MICROTENDIPES SP	9
ORTHOCLADIUS OBU	5
THIENEMANIELL SP	1
CHELIFERA SP.	1
HYALELLA AZTECA	9
GYRAULUS SP.	28
LYMNAEA SP.	1
PHYSA SP.	41
OLIGOCHAETA LUMB	11
TURBELLARI	1

23/D-57	
BAETIS TRICAUDAT	5
NIXE CRIDDLEI	2
NIXE SIMPLICIOID	9
STENONEMA SP.	18
PARALEPTOPHL BIC	12
PARALEPTOPHL DEB	3
ISOGENOIDES ELON	1
CHEUMATOPSYCHE	8
HYDROPTILA SP.	2
LEPIDOSTOMA SP.A	4
CERACLEA SP.	3
PARARGYRACTIS SP	1
OREODYTES SCITIL	1
DUBIRAPHIA SP.	2
OPTIOSERVUS SPP.	1
DICROTENDIP SP.B	1
MICROPSECTR SP.C	1
MICROTENDIPES SP	14
PAGASTIA SP.	1
ORTHOCLADIUS OBU	2
PROCLADIUS SP. A	1
CHELIFERA SP.	1
WIEDEMANNIA SP.	1
SIMULIUM SP.	1
HYALELLA AZTECA	17
GYRAULUS SP.	22
LYMNAEA SP.	3
PHYSA SP.	31
OLIGOCHAETA LUMB	5
HELOBDELLA SP.	1
TURBELLARI	2

24/A-57	
BAETIS INSIGNIFI	16
BAETIS TRICAUDAT	4
DRUNELLA GRANDIS	2
EPHEMERELLA INFR	1
HEPTAGENIA SOLIT	3
RHITHROGENA HAGE	2
STENONEMA SP.	25
TRICORYTHODES MI	2
OPHIOGOMPHUS SP.	1
PROTOPTILA SP.	4
CHEUMATOPSYCHE	133
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	23
HYDROPTILA SP.	2
LEUCOTRICHIA PIC	1
ZUMATRICHIA NOTO	1
CERACLEA SP.	29
PSYCHOMYIA FLAVI	3
OPTIOSERVUS SPP.	1
ZAITZEVIA PARVUL	12
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.A	16
MICROPSECTR SP.C	12
MICROTENDIPES SP	33
POLYPEDILUM SP.A	21
TANYTARSUS SP. C	23
XENOCHIRONOMUS	3
PAGASTIA SP.	2
CRICOTOPUS SP. B	1
EUKIEFFERIELLA A	2
EUKIEFFERIELLA B	2
EUKIEFFERIELLA E	38
ORTHOCLADIUS B	1
ORTHOCLADIUS MAL	1
ORTHOCLADIUS NIG	3
ORTHOCLADIUS OBU	28
PSECTROCLADIUS B	1
SYNORTHOCLADIUS	3
ABLABESMYIA SP.	2
SIMULIUM SP.	10
FERRISSIA SP.	5
LYMNAEA SP.	51
OLIGOCHAETA	1

24/B-57	
BAETIS INSIGNIFI	5
BAETIS TRICAUDAT	4
DRUNELLA GRANDIS	1
STENONEMA SP.	4
TRICORYTHODES MI	6
PROTOPTILA SP.	1
ARCTOPSYCHE GRAN	2
CHEUMATOPSYCHE	68
HYDROPSYCHE OCCI	2
SYMPHITOPS COCKE	10
CERACLEA SP.	6
NARPUS CONCOLOR	1
OPTIOSERVUS SPP.	1
ZAITZEVIA PARVUL	8
MICROPSECTR SP.A	3
MICROPSECTR SP.C	3
MICROTENDIPES SP	51
POLYPEDILUM SP.A	5
TANYTARSUS SP. C	1
XENOCHIRONOMUS	2
PAGASTIA SP.	1
EUKIEFFERIELLA A	1
EUKIEFFERIELLA E	8
ORTHOCLADIUS NIG	1
ORTHOCLADIUS OBU	22
PSECTROCLADIUS B	2
SYNORTHOCLADIUS	1
SIMULIUM SP.	9
LYMNAEA SP.	41
OLIGOCHAETA	1
OLIGOCHAETA LUMB	4

24/C-57	
BAETIS INSIGNIFI	9
BAETIS TRICAUDAT	3
ATTENELLA MARGAR	2
TIMPANOGA HECUBA	2
HEPTAGENIA SOLIT	1
NIXE SIMPLICIOID	1
RHITHROGENA HAGE	1
STENONEMA SP.	22
PARALEPTOPHL BIC	4
TRICORYTHODES MI	2
ISOGENOIDES ELON	1
PROTOPTILA SP.	2
CHEUMATOPSYCHE	57
HYDROPSYCHE OCCI	2
SYMPHITOPS COCKE	10
CERACLEA SP.	16
OPTIOSERVUS SPP.	1
ZAITZEVIA PARVUL	6
MICROPSECTR SP.A	4
MICROPSECTR SP.C	11
MICROTENDIPES SP	37
POLYPEDILUM SP.A	11
TANYTARSUS SP. C	6
XENOCHIRONOMUS	2
CRICOTOPUS SP. B	1
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	13
ORTHOCLADIUS OBU	18
PSECTROCLADIUS B	1
SYNORTHOCLADIUS	2
CHELIFERA SP.	1
SIMULIUM SP.	8
FERRISSIA SP.	2
LYMNAEA SP.	146
OLIGOCHAETA LUMB	2

24/D-57	
BAETIS INSIGNIFI	2
HEPTAGENIA SOLIT	2
RHITHROGENA HAGE	1
STENONEMA SP.	4
PARALEPTOPHL BIC	1
TRICORYTHODES MI	6
CLAASSENI SABULO	1
CHEUMATOPSYCHE	54
HYDROPSYCHE OCCI	1
SYMPHITOPS COCKE	7
CERACLEA SP.	9
PARARGYRACTIS SP	1
OREODYTES SCITIL	1
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	11
MICROPSECTR SP.A	6
MICROPSECTR SP.C	7
MICROTENDIPES SP	46
POLYPEDILUM SP.A	4
TANYTARSUS SP. C	9
CRICOTOPUS SP. B	3
EUKIEFFERIELLA B	1
EUKIEFFERIELLA E	8
ORTHOCLADIUS MAL	1
ORTHOCLADIUS NIG	1
ORTHOCLADIUS OBU	64
PSECTROCLADIUS B	1
SYNORTHOCLADIUS	7
ABLABESMYIA SP.	2
SIMULIUM SP.	12
FERRISSIA SP.	1
LYMNAEA SP.	43
OLIGOCHAETA LUMB	3

25/A-58	
ATTENELLA MARGAR	2
TIMPANOGA HECUBA	20
EPEORUS ALBERTAE	2
HEPTAGENIA SOLIT	24
NIXE SIMPLICIOID	2
STENONEMA SP.	76
TRICORYTHODES MI	2
CHEUMATOPSYCHE	218
SYMPHITOPS COCKE	16
CERACLEA SP.	10
PSYCHOMYIA FLAVI	4
OREODYTES SCITIL	2
OPTIOSERVUS SPP.	2
ZAITZEVIA PARVUL	10
DICROTENDIP SP.B	12
2	
MICROPSECTR SP.A	4
MICROPSECTR SP.C	24
MICROTENDIPES SP	14
POLYPEDILUM SP.A	6
STICTOCHIRONO SP	8
TANYTARSUS SP. C	22
EUKIEFFERIELLA E	2
ORTHOCLADIUS OBU	22
SYNORTHOCLADIUS	2
ABLABESMYIA SP.	6
FERRISSIA SP.	2
GYRAULUS SP.	68
LYMNAEA SP.	98
OLIGOCHAETA LUMB	8

25/B-58	
ATTENELLA MARGAR	10
TIMPANOGA HECUBA	6
HEPTAGENIA SOLIT	26
STENONEMA SP.	58
CLAASSENI SABULO	2
ISOGENOIDES ELON	2
PROTOPTILA SP.	2
CHEUMATOPSYCHE	288
HYDROPSYCHE OCCI	4
SYMPHITOPS COCKE	14
HYDROPTILA SP.	2
CERACLEA SP.	8
PARARGYRACTIS SP	2
ZAITZEVIA PARVUL	4
DICROTENDIP SP.C	4
MICROPSECTR SP.A	8
MICROPSECTR SP.C	34
MICROTENDIPES SP	22
TANYTARSUS SP. C	30
EUKIEFFERIELLA E	4
ORTHOCLADIUS OBU	4
ABLABESMYIA SP.	2
GYRAULUS SP.	50
LYMNAEA SP.	94
OLIGOCHAETA LUMB	12

25/C-58	
ATTENELLA MARGAR	2
TIMPANOGA HECUBA	4
HEPTAGENIA SOLIT	10
STENONEMA SP.	30
TRICORYTHODES MI	4
CHEUMATOPSYCHE	162
SYMPHITOPS COCKE	12
HYDROPTILA SP.	4
CERACLEA SP.	4
PSYCHOMYIA FLAVI	4
ZAITZEVIA PARVUL	4
DICROTENDIP SP.B	2
MICROPSECTR SP.C	16
MICROTENDIPES SP	10
POLYPEDILUM SP.A	2
STICTOCHIRONO SP	2
TANYTARSUS SP. C	16
EUKIEFFERIELLA E	4
ABLABESMYIA SP.	2
LEBERTIA SP.	2
GYRAULUS SP.	76
LYMNAEA SP.	66
PHYSA SP.	2
OLIGOCHAETA LUMB	4

25/D-58	
BAETIS INSIGNIFI	2
SERRATELLA TIBIA	2
TIMPANOGA HECUBA	6
HEPTAGENIA SOLIT	4
STENONEMA SP.	40
TRICORYTHODES MI	4
OPHIOGOMPHUS SP.	2
PROTOPTILA SP.	4
CHEUMATOPSYCHE	146
SYMPHITOPS COCKE	4
CERACLEA SP.	12
ZAITZEVIA PARVUL	8
MICROPSECTR SP.A	2
MICROPSECTR SP.C	6
MICROTENDIPES SP	4
POLYPEDILUM SP.A	4
TANYTARSUS SP. C	8
EUKIEFFERIELLA E	2
ORTHOCLADIUS OBU	2
ABLABESMYIA SP.	2
GYRAULUS SP.	98
LYMNAEA SP.	166
PHYSA SP.	2
OLIGOCHAETA LUMB	6

27/A-58	
CENTROPTILU SP.B	1
TIMPANOGA HECUBA	3
HEPTAGENIA SOLIT	4
NIXE SIMPLICIOID	1
ZAITZEVIA PARVUL	2
DICROTENDIP SP.B	8
MICROPSECTR SP.A	1
MICROPSECTR SP.C	5
PARACHIRON SP. B	2
PHAENOPSECTRA SP	1
TANYTARSUS SP. C	1
CLADOCERA	5
OLIGOCHAETA LUMB	6

27/B-58	
CENTROPTILU SP.B	2
TIMPANOGA HECUBA	2
HEPTAGENIA SOLIT	2
CHEUMATOPSYCHE	1
SYMPHITOPS COCKE	2
ZAITZEVIA PARVUL	1
CRYPTOTENDIPE SP	1
DICROTENDIP SP.B	29
MICROPSECTR SP.A	16
MICROPSECTR SP.C	15
PARACHIRON SP. B	1
PHAENOPSECTRA SP	2
POLYPEDILUM SP.D	1
TANYTARSUS SP. C	4
ORTHOCLADIUS OBU	13
PSECTROCLADIUS B	2
CLADOCERA	24
OLIGOCHAETA LUMB	5

27/C-58	
CENTROPTILU SP.B	2
TIMPANOGA HECUBA	3
STENONEMA SP.	1
TRICORYTHODES MI	1
ZAITZEVIA PARVUL	4
DICROTENDIP SP.B	9
DICROTENDIP SP.C	1
MICROPSECTR SP.A	1
MICROPSECTR SP.C	1
MICROTENDIPES SP	2
POLYPEDILUM SP.A	1
POLYPEDILUM SP.D	1
TANYTARSUS SP. C	2
EUKIEFFERIELLA E	1
ORTHOCLADIUS OBU	1
SIMULIUM SP.	1
CLADOCERA	60
OLIGOCHAETA LUMB	12

27/D-58	
ZAITZEVIA PARVUL	23
DICROTENDIP SP.B	12
MICROPSECTR SP.A	2
MICROPSECTR SP.C	5
MICROTENDIPES SP	2
PARACLADOPE SP.B	1
PHAENOPSECTRA SP	1
POLYPEDILUM SP.D	1
TANYTARSUS SP. C	3
ORTHOCLADIUS OBU	1
PSECTROCLADIUS B	2
CLADOCERA	46
LEBERTIA SP.	1
OLIGOCHAETA LUMB	11

31/A-58	
CENTROPTILU SP.A	2
NIXE SIMPLICIOID	4
PARALEPTOPHL BIC	104
PARALEPTOPHL DEB	17
TRICORYTHODES MI	19
CHEUMATOPSYCHE	8
HYDROPTILA SP.	5
CERACLEA SP.	4
DICROTENDIP SP.B	3
MICROPSECTR SP.A	1
MICROPSECTR SP.C	1
MICROTENDIPES SP	47
PARACLADOPE SP.B	1
PHAENOPSECTRA SP	1
TANYTARSUS SP. C	1
BRILLIA SP.	1
ORTHOCLADIUS OBU	9
SYNORTHOCLADIUS	2
SIMULIUM SP.	1
CLADOCERA	1
GAMMARUS SP.	3
LEBERTIA SP.	1
GYRAULUS SP.	11
LYMNAEA SP.	8
PHYSA SP.	1
OLIGOCHAETA LUMB	4

31/B-58	
CENTROPTILU SP.A	1
NIXE SIMPLICIOID	3
STENONEMA SP.	3
PARALEPTOPHL BIC	89
PARALEPTOPHL DEB	5
TRICORYTHODES MI	11
CHEUMATOPSYCHE	10
SYMPHITOPS COCKE	1
HYDROPTILA SP.	3
CERACLEA SP.	3
CRYPTOCHIRONOMUS	1
DICROTENDIP SP.B	3
MICROPSECTR SP.A	1
MICROPSECTR SP.C	2
MICROTENDIPES SP	29
PARATANYTAR SP.B	2
PHAENOPSECTRA SP	1
TANYTARSUS SP. C	1
ORTHOCLADIUS OBU	10
SYNORTHOCLADIUS	9
ABLABESMYIA SP.	2
SIMULIUM SP.	4
GAMMARUS SP.	1
LEBERTIA SP.	1
GYRAULUS SP.	8
LYMNAEA SP.	12
PHYSA SP.	1

31/C-58	
CENTROPTILU SP.A	2
NIXE SIMPLICIOID	2
STENONEMA SP.	5
PARALEPTOPHL BIC	144
PARALEPTOPHL DEB	30
TRICORYTHODES MI	36
CHEUMATOPSYCHE	6
SYMPHITOPS COCKE	2
HYDROPTILA SP.	7
CERACLEA SP.	4
CRYPTOCHIRONOMUS	1
MICROPSECTR SP.A	1
MICROTENDIPES SP	53
TANYTARSUS SP. C	6
POTTHASTIA SP.	1
ORTHOCLADIUS OBU	22
PSECTROCLADIUS B	1
SYNORTHOCLADIUS	8
ABLABESMYIA SP.	1
TIPULA SP.	6
CLADOCERA	1
GAMMARUS SP.	6
GYRAULUS SP.	42
LYMNAEA SP.	24
PHYSA SP.	2
OLIGOCHAETA LUMB	2

31/D-58	
CENTROPTILU SP.A	1
NIXE SIMPLICIOID	8
STENONEMA SP.	1
PARALEPTOPHL BIC	117
PARALEPTOPHL DEB	18
TRICORYTHODES MI	19
CHEUMATOPSYCHE	8
HYDROPTILA SP.	2
CERACLEA SP.	5
CRYPTOCHIRONOMUS	3
MICROTENDIPES SP	36
PARACHIRON SP. B	1
TANYTARSUS SP. C	1
ORTHOCLADIUS OBU	10
SYNORTHOCLADIUS	7
ABLABESMYIA SP.	1
SIMULIUM SP.	1
TIPULA SP.	1
CLADOCERA	1
GAMMARUS SP.	5
LEBERTIA SP.	1
GYRAULUS SP.	19
LYMNAEA SP.	24
PHYSA SP.	3
OLIGOCHAETA LUMB	1

Table 16. Deep Water Monitoring Stations - Petite Ponar Grab Samples

3/1-57	
CHIRONOMUS SP.	6
OLIGOCHAETA	19
3/2-57	
CHIRONOMUS SP.	10
OLIGOCHAETA	16
3/3-57	
CHIRONOMUS SP.	3
OLIGOCHAETA	142
26/1-57	
CHIRONOMUS SP.	1
CRYPTOCHIRONOMUS	1
CRYPTOTENDIPE SP	5
DICROTENDIP SP.A	1
PARALAUTERBORNIE	13
POLYPEDILUM SP.C	31
TANYTARSUS SP. A	1
PROCLADIUS SP. A	2
OLIGOCHAETA	471
26/2-57	
CRYPTOCHIRONOMUS	4
CRYPTOTENDIPE SP	2
DICROTENDIP SP.A	1
PARACLADOPE SP.B	1
PARALAUTERBORNIE	11
POLYPEDILUM SP.C	19
TANYTARSUS SP. A	1
OLIGOCHAETA	418
26/3-57	
CRYPTOCHIRONOMUS	4
CRYPTOTENDIPE SP	6
DICROTENDIP SP.A	6
PARALAUTERBORNIE	6
POLYPEDILUM SP.C	51
MONODIAMESA SP.	2
PROCLADIUS SP. A	2
OLIGOCHAETA	353
28A/1-57	
TANYTARSUS SP. A	7
PROCLADIUS SP. A	10
CLADOCERA	1
OSTRACODA	1
OLIGOCHAETA	36
28A/2-57	
PALPOMY-GP SP. A	1
PROCLADIUS SP. A	6
OLIGOCHAETA	22
28A/3-57	
TANYTARSUS SP. A	3
PROCLADIUS SP. A	10
CLADOCERA	1
OLIGOCHAETA	51
28B/1-57	
CHIRONOMUS SP.	4
PROCLADIUS SP. A	3
OLIGOCHAETA	390
28B/2-57	
CHIRONOMUS SP.	11
TANYTARSUS SP. A	1
PROCLADIUS SP. A	5
OLIGOCHAETA	334
28B/3-57	
CHIRONOMUS SP.	6
PROCLADIUS SP. A	9
OLIGOCHAETA	746
30B/1-57	
PALPOMY-GP SP. A	2
LENZIELLA SP.	1
PARALAUTERBORNIE	9
POLYPEDILUM SP.B	1
PROCLADIUS SP. A	1
CLADOCERA	1
COPEPODA	4
OLIGOCHAETA	36
30B/2-57	
PALPOMY-GP SP. A	4
LENZIELLA SP.	2
PARALAUTERBORNIE	7
POLYPEDILUM SP.B	1
CLADOCERA	7
COPEPODA	4
OSTRACODA	1
OLIGOCHAETA	43
30B/3-57	
OECETIS SP. B	1
PALPOMY-GP SP. A	2
CRYPTOCHIRONOMUS	2
DICROTENDIP SP.A	1
PARALAUTERBORNIE	8
TANYTARSUS SP. A	1
PROCLADIUS SP. A	2
CLADOCERA	8
COPEPODA	4
OLIGOCHAETA	67

Table 17. Benthic Macroinvertebrate Sample Percent Distribution and Diversity Data, Spring 1984

Shallow Water Monitoring Stations - Kick Samples

SAMPLE: 01TUR3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	19.4
2	DRUNELLA GRANDIS	.1
3	EPHEMERELLA INFR	32.4
4	CINYGMULA SP. A	.2
5	RHITHROGENA HAGE	6.6
6	PARALEPTOPHL MEM	.2
7	AMELETUS SPARSAT	.1
8	AMELETUS VELOX	.1
9	CAPNIA-GROUP SP.	2.2
10	ALLOPERLA-GROUP	3.2
11	PROSTOIA BESAMET	4.7
12	ZAPADA CINCTIPES	.1
13	CLAASSENI SABULO	.8
14	CULTUS PILATUS	.4
15	ISOGENOIDES ELON	.5
16	ISOPERLA FULVA	11.6
17	ISOPERLA QUINQUE	3.1
18	PTERONARCELLA BA	3
19	PTERONARCYS CALI	.1
20	TAENIONEMA PACIF	1.9
21	BRACHYCENTRUS AM	.1
22	ARCTOPSYCHE GRAN	.3
23	CHEUMATOPSYCHE	.2
24	HYDROPSYCHE OCCI	2.9
25	SYMPHITOPSYCHE C	.5
26	SYMPHITOPSYCHE S	1.6
27	LEPIDOSTOMA SP.A	.1
28	OPTIOSERVUS SPP.	.4
29	ZAITZEVIA PARVUL	.1
30	ATHERIX VARIEGAT	.3
31	MICROTENDIPES A	.1
32	ORTHOCLADIUS (EU	.1
33	ORTHOCLADIUS A	.2
34	SIMULIUM SP. A	2.5
35	HEXATOMA SP.	.1
36	TIPULA SP.	.1

DIVERSITY INDEX 3.3

Table 17. Continued

SAMPLE: 02BLW3
SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	18.4
2	DRUNELLA DODDSI	.1
3	DRUNELLA GRANDIS	.4
4	EPHEMERELLA INFR	5.8
5	RHITHROGENA HAGE	7.5
6	AMELETUS VELOX	.2
7	ALLOPERLA-GROUP	4
8	PROSTOIA BESAMET	.5
9	CALINEURIA CALIF	1.6
10	CLAASSENI SABULO	.8
11	HESPEROPERLA PAC	1.1
12	CULTUS PILATUS	.5
13	ISOGENOIDES ELON	.1
14	ISOPERLA FULVA	12.2
15	PTERONARCYS CALI	2.7
16	TAENIONEMA PACIF	1.1
17	BRACHYCENTRUS OC	.1
18	GLOSSOSOMA SP.	1
19	ARCTOPSYCHE GRAN	1
20	CHEUMATOPSYCHE	9.6
21	HYDROPSYCHE OCCI	.7
22	SYMPHITOPSYCHE C	6.3
23	SYMPHITOPSYCHE S	6.1
24	PSYCHOMYIA FLAVI	.2
25	RHYACOPHILA BIFI	.2
26	PARARGYRACTIS SP	.1
27	OPTIOSERVUS SPP.	1.3
28	ZAITZEVIA PARVUL	2.9
29	ATHERIX VARIEGAT	.4
30	MICROTENDIPES A	.1
31	DIAMESA SP. A	.1
32	CRICOTOPUS SP. A	.1
33	EUKIEFFERIELLA A	.5
34	ORTHOCLADIUS (EU	.1
35	ORTHOCLADIUS MAL	.2
36	SIMULIUM SP. A	10
37	HEXATOMA SP.	.4

DIVERSITY INDEX 3.9

Table 17. Continued

SAMPLE: 04CFM3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	30.9
2	DRUNELLA GRANDIS	1
3	EPHEMERELLA INFR	11.6
4	RHITHROGENA HAGE	1
5	AMELETUS VELOX	.3
6	CAPNIA-GROUP SP.	8
7	ALLOPERLA-GROUP	1.2
8	PROSTOIA BESAMET	.7
9	CALINEURIA CALIF	.1
10	CLAASSENI SABULO	.1
11	HESPEROPERLA PAC	.5
12	CULTUS PILATUS	.2
13	ISOGENOIDES ELON	1.6
14	ISOPERLA FULVA	12.4
15	ISOPERLA QUINQUE	1.2
16	SKWALA PARALLELA	.4
17	PTERONARCELLA BA	1.7
18	PTERONARCYS CALI	.3
19	TAENIONEMA PACIF	8.5
20	BRACHYCENTRUS OC	.2
21	ARCTOPSYCHE GRAN	.3
22	CHEUMATOPSYCHE	4.4
23	HYDROPSYCHE OCCI	3.8
24	SYMPHITOPSYCHE C	4.4
25	SYMPHITOPSYCHE S	.6
26	LEPIDOSTOMA SP.A	.1
27	OECETIS SP. A	.1
28	PSYCHOMYIA FLAVI	.4
29	RHYACOPHILA BIFI	.2
30	OREODYTES SCITIL	.1
31	OPTIOSERVUS SPP.	.7
32	ZAITZEVIA PARVUL	.6
33	ATHERIX VARIEGAT	.3
34	MICROTENDIPES A	.6
35	DIAMESA SP. A	.2
36	BRILLIA SP.	.2
37	ORTHOCLADIUS (EU	.2
38	ORTHOCLADIUS OBU	.2
39	TRISSOCLADIUS A	.1
40	SIMULIUM SP. A	.2
41	HEXATOMA SP.	.4

DIVERSITY INDEX 3.57

Table 17. Continued

SAMPLE: 05MIS3
SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	44
2	DRUNELLA GRANDIS	.1
3	EPHEMERELLA INFR	6.5
4	RHITHROGENA HAGE	10
5	AMELETUS SPARSAT	.2
6	AMELETUS VELOX	.2
7	CAPNIA-GROUP SP.	1.9
8	ALLOPERLA-GROUP	2.4
9	PROSTOIA BESAMET	.2
10	CALINEURIA CALIF	.1
11	CLAASSENI SABULO	.1
12	HESPEROPERLA PAC	.2
13	CULTUS PILATUS	.5
14	ISOGENOIDES ELON	2.2
15	ISOPERLA FULVA	19.5
16	ISOPERLA QUINQUE	1.4
17	SKWALA PARALLELA	.6
18	PTERONARCELLA BA	.7
19	PTERONARCYS CALI	.3
20	TAENIONEMA PACIF	3.5
21	ARCTOPSYCHE GRAN	.1
22	CHEUMATOPSYCHE	.7
23	HYDROPSYCHE OCCI	1.7
24	SYMPHITOPSYCHE C	1.7
25	SYMPHITOPSYCHE S	.7
26	PSYCHOMYIA FLAVI	.1
27	RHYACOPHILA BIFI	.1
28	ZAITZEVIA PARVUL	.1
29	ATHERIX VARIEGAT	.1
30	ORTHOCLADIUS (EU	.1
31	SIMULIUM SP. A	.1

DIVERSITY INDEX 2.8

SAMPLE: 06MIW3
SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	23.2
2	DRUNELLA GRANDIS	.1
3	EPHEMERELLA INFR	16.7
4	CINYGMULA SP. A	.3
5	RHITHROGENA HAGE	2
6	AMELETUS VELOX	.3
7	CAPNIA-GROUP SP.	2.7
8	ALLOPERLA-GROUP	.5
9	PROSTOIA BESAMET	.3
10	CALINEURIA CALIF	.1
11	CLAASSENI SABULO	.1
12	HESPEROPERLA PAC	.3
13	CULTUS PILATUS	1.5
14	ISOGENOIDES ELON	1.3
15	ISOPERLA FULVA	7.7
16	ISOPERLA QUINQUE	4
17	SKWALA PARALLELA	.7
18	PTERONARCELLA BA	1.1
19	PTERONARCYS CALI	1.1
20	TAENIONEMA PACIF	1.6
21	ARCTOPSYCHE GRAN	1.2
22	CHEUMATOPSYCHE	10.5
23	HYDROPSYCHE OCCI	4.9
24	SYMPHITOPSYCHE C	9.3
25	SYMPHITOPSYCHE S	.4
26	PSYCHOMYIA FLAVI	1.1
27	RHYACOPHILA BIFI	.1
28	ZAITZEVIA PARVUL	1.9
29	DIAMESA SP. A	.4
30	DIAMESA SP. B	.5
31	CRICOTOPUS SP. A	.1
32	CRICOTOPUS SP. B	.4
33	ORTHOCLADIUS (EU	1.6
34	ORTHOCLADIUS A	.3
35	ORTHOCLADIUS B	.1
36	ORTHOCLADIUS C	.1
37	ORTHOCLADIUS MAL	.1
38	ORTHOCLADIUS OBU	.8
39	HEXATOMA SP.	.4

DIVERSITY INDEX 3.81

Table 17. Continued

SAMPLE: 08BMW3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	9.1
2	DRUNELLA GRANDIS	.3
3	EPHEMERELLA INFR	35.6
4	RHITHROGENA HAGE	.8
5	AMELETUS VELOX	.2
6	CAPNIA-GROUP SP.	1.1
7	ALLOPERLA-GROUP	.1
8	PROSTOIA BESAMET	.2
9	ZAPADA COLUMBIAN	.1
10	CALINEURIA CALIF	.2
11	CLAASSENI SABULO	.6
12	HESPEROPERLA PAC	.3
13	CULTUS PILATUS	5.2
14	ISOGENOIDES ELON	3.1
15	ISOPERLA FULVA	10
16	ISOPERLA QUINQUE	7.1
17	PTERONARCELLA BA	1.5
18	PTERONARCYS CALI	.2
19	TAENIONEMA PACIF	1.4
20	ARCTOPSYCHE GRAN	.6
21	CHEUMATOPSYCHE	6.3
22	HYDROPSYCHE OCCI	4.8
23	SYMPHITOPSYCHE C	3.8
24	SYMPHITOPSYCHE S	.5
25	HYDROPTILA SP.	.2
26	PSYCHOMYIA FLAVI	.3
27	PARARGYRACTIS SP	.6
28	OPTIOSERVUS SPP.	.2
29	ZAITZEVIA PARVUL	.8
30	MICROTENDIPES A	.2
31	PHAENOPSECTRA SP	.1
32	DIAMESA SP. A	.1
33	DIAMESA SP. B	1.2
34	PAGASTIA SP.	.1
35	CRICOTOPUS SP. B	.4
36	EUKIEFFERIELLA A	.2
37	ORTHOCLADIUS (EU	.3
38	ORTHOCLADIUS B	.5
39	ORTHOCLADIUS OBU	.9
40	ABLABESMYIA SP.	.1
41	WIEDEMANNIA SP.	.1
42	SIMULIUM SP. A	.1
43	HEXATOMA SP.	.2
44	OLIGOCHAETA	.3

DIVERSITY INDEX 3.55

Table 17. Continued

SAMPLE: 09SHE3
SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	9
2	EPHEMERELLA INFR	38.1
3	RHITHROGENA HAGE	.8
4	PARALEPTOPHL MEM	.1
5	AMELETUS VELOX	.9
6	CAPNIA-GROUP SP.	5
7	ALLOPERLA-GROUP	.1
8	PROSTOIA BESAMET	.1
9	CLAASSENI SABULO	.4
10	CULTUS PILATUS	.5
11	ISOGENOIDES ELON	5
12	ISOPERLA FULVA	8.4
13	ISOPERLA QUINQUE	4.8
14	SKWALA PARALLELA	1.1
15	PTERONARCELLA BA	.4
16	TAENIONEMA PACIF	1.1
17	ARCTOPSYCHE GRAN	.1
18	CHEUMATOPSYCHE	7.7
19	HYDROPSYCHE OCCI	4
20	SYMPHITOPSYCHE C	2.3
21	SYMPHITOPSYCHE S	.7
22	OECETIS SP. A	.1
23	PSYCHOMYIA FLAVI	.7
24	PARARGYRACTIS SP	.6
25	OPTIOSERVUS SPP.	.2
26	ZAITZEVIA PARVUL	.5
27	ATHERIX VARIEGAT	.2
28	MICROTENDIPES A	.2
29	PARACLADOPELMA	.1
30	DIAMESA SP. A	.1
31	DIAMESA SP. B	.9
32	CRICOTOPUS SP. B	.1
33	CRICOTOPUS SP. C	.1
34	EUKIEFFERIELLA A	.1
35	EUKIEFFERIELLA B	.2
36	EUKIEFFERIELLA C	.1
37	ORTHOCLADIUS (EU	1.5
38	ORTHOCLADIUS B	.2
39	ORTHOCLADIUS OBU	2.9
40	WIEDEMANNIA SP.	.1
41	HEXATOMA SP.	.2

DIVERSITY INDEX 3.48

SAMPLE: 10BRM3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	6.2
2	DRUNELLA GRANDIS	1
3	EPHEMERELLA INFR	20.1
4	RHITHROGENA HAGE	4.6
5	PARALEPTOPHL MEM	.2
6	CAPNIA-GROUP SP.	3.2
7	ALLOPERLA-GROUP	.1
8	CLAASSENI SABULO	1.1
9	CULTUS PILATUS	.4
10	ISOGENOIDES ELON	.3
11	ISOPERLA FULVA	2.2
12	ISOPERLA QUINQUE	1.3
13	SKWALA PARALLELA	.1
14	PTERONARCELLA BA	1.5
15	TAENIONEMA PACIF	3.4
16	GLOSSOSOMA SP.	.1
17	ARCTOPSYCHE GRAN	.3
18	CHEUMATOPSYCHE	13.1
19	HYDROPSYCHE OCCI	19
20	SYMPHITOPSYCHE C	2
21	SYMPHITOPSYCHE S	.4
22	HYDROPTILA SP.	.5
23	LEPIDOSTOMA SP.A	3
24	PARARGYRACTIS SP	.1
25	OREODYTES SCITIL	.1
26	OPTIOSERVUS SPP.	6.6
27	ZAITZEVIA PARVUL	2
28	ATHERIX VARIEGAT	.4
29	MICROPSECTRA SP.	.3
30	DIAMESA SP. B	.2
31	PAGASTIA SP.	.3
32	CRICOTOPUS SP. A	.8
33	CRICOTOPUS SP. B	.9
34	EUKIEFFERIELLA C	.3
35	ORTHOCLADIUS (EU	.5
36	ORTHOCLADIUS OBU	.3
37	SIMULIUM SP. A	4.3
38	HEXATOMA SP.	.2
39	TIPULA SP.	.3
40	OLIGOCHAETA LUMB	1
41	TURBELLARIA	.2

DIVERSITY INDEX 3.86

Table 17. Continued

SAMPLE: 11HAR3
SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	12.5
2	EPHEMERELLA INFR	28.1
3	RHITHROGENA HAGE	6
4	AMELETUS VELOX	.1
5	CAPNIA-GROUP SP.	0
6	CLAASSENI SABULO	.4
7	CULTUS PILATUS	2.8
8	ISOGENOIDES ELON	2.3
9	ISOPERLA FULVA	8.4
10	ISOPERLA QUINQUE	4.2
11	SKWALA PARALLELA	0
12	PTERONARCELLA BA	1.2
13	PTERONARCYS CALI	.2
14	TAENIONEMA PACIF	2.3
15	ARCTOPSYCHE GRAN	.3
16	CHEUMATOPSYCHE	2.9
17	HYDROPSYCHE OCCI	5.6
18	SYMPHITOPSYCHE C	.1
19	SYMPHITOPSYCHE S	0
20	HYDROPTILA SP.	3.3
21	LEPIDOSTOMA SP.A	.1
22	OECETIS SP. A	.1
23	PARARGYRACTIS SP	0
24	OPTIOSERVUS SPP.	.1
25	ZAITZEVIA PARVUL	.2
26	ATHERIX VARIEGAT	.3
27	MICROPSECTRA SP.	0
28	MICROTENDIPES A	0
29	DIAMESA SP. A	0
30	DIAMESA SP. B	.6
31	PAGASTIA SP.	.1
32	CRICOTOPUS SP. A	.5
33	CRICOTOPUS SP. B	.6
34	EUKIEFFERIELLA B	0
35	EUKIEFFERIELLA C	.1
36	ORTHOCLADIUS (EU	3
37	ORTHOCLADIUS A	0
38	ORTHOCLADIUS B	.1
39	ORTHOCLADIUS MAL	0
40	ORTHOCLADIUS OBU	2.3
41	TRISSOCLADIUS A	0
42	CHELIFERA SP.	0
43	PROSIMULIUM SP.	0
44	SIMULIUM SP. A	9.3
45	HEXATOMA SP.	1

DIVERSITY INDEX 3.71

SAMPLE: 13BCH3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	8.1
2	EPHEMERELLA INFR	21.7
3	RHITHROGENA HAGE	16
4	PARALEPTOPHL MEM	.2
5	AMELETUS VELOX	.2
6	CAPNIA-GROUP SP.	1.4
7	ALLOPERLA-GROUP	.5
8	CALINEURIA CALIF	.1
9	CLAASSENI SABULO	2.3
10	HESPEROPERLA PAC	[illegible]
11	CULTUS PILATUS	1.9
12	ISOGENOIDES ELON	2.8
13	ISOPERLA FULVA	11.8
14	ISOPERLA QUINQUE	2.7
15	SKWALA PARALLELA	.5
16	PTERONARCELLA BA	2.3
17	PTERONARCYS CALI	.1
18	TAENIONEMA PACIF	3.8
19	BRACHYCENTRUS OC	.1
20	ARCTOPSYCHE GRAN	.5
21	CHEUMATOPSYCHE	2.8
22	HYDROPSYCHE OCCI	4.3
23	SYMPHITOPSYCHE C	.4
24	HYDROPTILA SP.	1.2
25	LEPIDOSTOMA SP.A	.1
26	OECETIS SP. A	.5
27	PSYCHOMYIA FLAVI	.2
28	OREODYTES SCITIL	.2
29	OPTIOSERVUS SPP.	.6
30	ZAITZEVIA PARVUL	.7
31	ATHERIX VARIEGAT	.9
32	CHIRONOMUS SP.	.1
33	MICROTENDIPES A	.8
34	DIAMESA SP. B	.2
35	PAGASTIA SP.	.3
36	POTTHASTIA SP.	.1
37	CRICOTOPUS SP. A	.2
38	ORTHOCLADIUS (EU	.4
39	ORTHOCLADIUS D	.1
40	ORTHOCLADIUS OBU	.6
41	TRISSOCLADIUS A	.1
42	SIMULIUM SP. A	5.2
43	HEXATOMA SP.	3.1
44	TIPULA SP.	.2

DIVERSITY INDEX 3.95

Table 17. Continued

SAMPLE: 15HUS3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	9.5
2	DRUNELLA GRANDIS	.1
3	EPHEMERELLA INFR	38.1
4	RHITHROGENA HAGE	18.3
5	PARALEPTOPHL MEM	.1
6	AMELETUS SPARSAT	.9
7	CAPNIA-GROUP SP.	.9
8	CALINEURIA CALIF	.1
9	CLAASSENI SABULO	.4
10	HESPEROPERLA PAC	.4
11	CULTUS PILATUS	.9
12	ISOGENOIDES ELON	2.8
13	ISOPERLA FULVA	6.9
14	ISOPERLA QUINQUE	2.3
15	SKWALA PARALLELA	.7
16	PTERONARCELLA BA	1.4
17	PTERONARCYS CALI	.3
18	TAENIONEMA PACIF	1.4
19	BRACHYCENTRUS OC	.1
20	ARCTOPSYCHE GRAN	.1
21	CHEUMATOPSYCHE	.7
22	HYDROPSYCHE OCCI	1.4
23	SYMPHITOPSYCHE C	.2
24	HYDROPTILA SP.	3.6
25	OECETIS SP. A	.1
26	PSYCHOMYIA FLAVI	.1
27	PARARGYRACTIS SP	.1
28	OREODYTES SCITIL	.1
29	OPTIOSERVUS SPP.	.4
30	ZAITZEVIA PARVUL	.4
31	ATHERIX VARIEGAT	.3
32	MICROTENDIPES A	3
33	DIAMESA SP. A	.1
34	DIAMESA SP. B	.1
35	EUKIEFFERIELLA C	.1
36	ORTHOCLADIUS (EU	.8
37	ORTHOCLADIUS B	.1
38	ORTHOCLADIUS D	.1
39	ORTHOCLADIUS OBU	.3
40	TRISSOCLADIUS A	.1
41	ABLABESMYIA SP.	.1
42	DIPTERA-DOLICHOP	.1
43	SIMULIUM SP. A	.9
44	HEXATOMA SP.	1.4
45	TIPULA SP.	.1

DIVERSITY INDEX 3.28

SAMPLE: 19LOZ3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	14.3
2	DRUNELLA GRANDIS	.4
3	EPHEMERELLA INFR	51.3
4	HEPTAGENIA SOLIT	.3
5	RHITHROGENA HAGE	2
6	PARALEPTOPHL MEM	3.2
7	CAPNIA-GROUP SP.	.5
8	PROSTOIA BESAMET	.3
9	CLAASSENI SABULO	.1
10	HESPEROPERLA PAC	.1
11	CULTUS PILATUS	4.2
12	ISOGENOIDES ELON	2
13	ISOPERLA FULVA	3.8
14	ISOPERLA QUINQUE	2.9
15	SKWALA PARALLELA	.1
16	PTERONARCYS CALI	.1
17	TAENIONEMA PACIF	1.2
18	BRACHYCENTRUS OC	.1
19	CHEUMATOPSYCHE	2.2
20	HYDROPSYCHE OCCI	2.1
21	SYMPHITOPSYCHE C	.5
22	HYDROPTILA SP.	.3
23	PSYCHOMYIA FLAVI	.1
24	OPTIOSERVUS SPP.	.1
25	MICROPSECTRA SP.	.1
26	MICROTENDIPES A	.1
27	DIAMESA SP. A	.3
28	DIAMESA SP. B	.1
29	PAGASTIA SP.	1.8
30	CRICOTOPUS SP. A	.2
31	CRICOTOPUS SP. B	.1
32	EUKIEFFERIELLA A	.1
33	ORTHOCLADIUS (EU	3.2
34	ORTHOCLADIUS B	.6
35	ORTHOCLADIUS D	.2
36	ORTHOCLADIUS MAL	.2
37	ORTHOCLADIUS OBU	.8
38	TRISSOCLADIUS A	.1

DIVERSITY INDEX 2.86

SAMPLE: 21STR3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	19.6
2	DRUNELLA GRANDIS	.1
3	EPHEMERELLA INFR	48.3
4	HEPTAGENIA SOLIT	.1
5	RHITHROGENA HAGE	10.2
6	PARALEPTOPHL MEM	3.7
7	AMELETUS VELOX	.2
8	CAPNIA-GROUP SP.	.1
9	PROSTOIA BESAMET	.2
10	CULTUS PILATUS	.4
11	ISOGENOIDES ELON	.6
12	ISOPERLA FULVA	1.2
13	ISOPERLA QUINQUE	2
14	TAENIONEMA PACIF	2
15	CHEUMATOPSYCHE	.3
16	HYDROPSYCHE OCCI	.3
17	SYMPHITOPSYCHE C	.1
18	SYMPHITOPSYCHE S	0
19	HYDROPTILA SP.	.1
20	LEPIDOSTOMA SP.A	0
21	PSYCHOMYIA FLAVI	0
22	OPTIOSERVUS SPP.	.1
23	ZAITZEVIA PARVUL	.1
24	MICROPSECTRA SP.	0
25	MICROTENDIPES A	.2
26	DIAMESA SP. A	.1
27	DIAMESA SP. B	.8
28	PAGASTIA SP.	.6
29	CRICOTOPUS SP. B	.2
30	ORTHOCLADIUS (EU	4.8
31	ORTHOCLADIUS B	.5
32	ORTHOCLADIUS D	.2
33	ORTHOCLADIUS MAL	.2
34	ORTHOCLADIUS OBU	1.8
35	TRISSOCLADIUS A	.8
36	SIMULIUM SP. A	.1

DIVERSITY INDEX 2.62

Table 17. Continued

SAMPLE: 24APL3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	2.7
2	EPHEMERELLA INFR	.9
3	HEPTAGENIA SOLIT	.7
4	RHITHROGENA HAGE	.7
5	STENONEMA SP.	.1
6	PARALEPTOPHL MEM	8.7
7	ISOGENOIDES ELON	.2
8	TAENIONEMA PACIF	1.2
9	CHEUMATOPSYCHE	.1
10	ZAITZEVIA PARVUL	.1
11	DICROTENDIPES SP	.1
12	MICROPSECTRA SP.	.2
13	DIAMESA SP. A	.1
14	DIAMESA SP. B	6.2
15	PAGASTIA SP.	.8
16	CRICOTOPUS SP. B	6.8
17	EUKIEFFERIELLA D	.2
18	ORTHOCLADIUS (EU	25.8
19	ORTHOCLADIUS B	.9
20	ORTHOCLADIUS D	.6
21	ORTHOCLADIUS MAL	.5
22	ORTHOCLADIUS OBU	31.6
23	TRISSOCLADIUS A	9.5
24	SIMULIUM SP. A	1.1

DIVERSITY INDEX 2.94

Table 17. Continued

SAMPLE: 27TFR3
SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	.2
2	DRUNELLA GRANDIS	.2
3	EPHEMERELLA INFR	.3
4	CINYGMULA SP. A	.2
5	HEPTAGENIA SOLIT	1.8
6	STENONEMA SP.	22.1
7	PTERONARCYS CALI	.2
8	TAENIONEMA PACIF	.5
9	OPHIOGOMPHUS SP.	.3
10	GLOSSOSOMA SP.	.2
11	CHEUMATOPSYCHE	12.8
12	HYDROPSYCHE SP.A	2.3
13	HYDROPSYCHE OCCI	1.7
14	SYMPHITOPSYCHE C	7.4
15	HYDROPTILA SP.	4.2
16	ZUMATRICHIA NOTO	.2
17	CERACLEA SP.	5.7
18	OECETIS SP. A	.2
19	PSYCHOMYIA FLAVI	3.4
20	PARARGYRACTIS SP	1.2
21	OPTIOSERVUS SPP.	.3
22	ZAITZEVIA PARVUL	2.2
23	MICROPSECTRA SP.	.2
24	MICROTENDIPES A	2.9
25	DIAMESA SP. B	.8
26	PAGASTIA SP.	11.4
27	CRICOTOPUS SP. A	.8
28	CRICOTOPUS SP. B	.2
29	EUKIEFFERIELLA A	.2
30	EUKIEFFERIELLA C	1
31	ORTHOCLADIUS (EU	1.5
32	ORTHOCLADIUS B	1.7
33	ORTHOCLADIUS MAL	.5
34	ORTHOCLADIUS OBU	9.4
35	TRISSOCLADIUS A	1.7
36	SIMULIUM SP. A	.2
37	FERRISSIA SP.	.2

DIVERSITY INDEX 3.9

Table 17. Deep Water Monitoring Stations - Petite Ponar Grab Samples

SAMPLE: P03MT3
SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP.	9.1
2	ORMOSIA SP.	9.1
3	OLIGOCHAETA	81.8

DIVERSITY INDEX .87

SAMPLE: P16BN3
SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP.	2.1
2	CRYPTOCHIRONOMUS	1.4
3	PHAENOPSECTRA SP	.7
4	MONODIAMESA SP.	.7
5	HETEROTRISSOCLAD	.7
6	ORTHOCLADIUS OBU	3.5
7	TRISSOCLADIUS A	.7
8	HEXATOMA SP.	.7
9	OLIGOCHAETA	89.4

DIVERSITY INDEX .77

SAMPLE: P26TF3
SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	ISCHNURA SP.	.5
2	PARARGYRACTIS SP	.5
3	ZAITZEVIA PARVUL	.5
4	CHIRONOMUS SP.	21.3
5	CRYPTOCHIRONOMUS	.5
6	MICROPSECTRA SP.	.9
7	PHAENOPSECTRA SP	4.7
8		.9
9	MONODIAMESA SP.	.5
10	CRICOTOPUS SP. B	.5
11	EUKIEFFERIELLA B	.5
12	ORTHOCLADIUS (EU	.5
13	TRISSOCLADIUS A	2.8
14	PROCLADIUS SP.	1.9
15	OLIGOCHAETA	63.5

DIVERSITY INDEX 1.77

SAMPLE: P28NR3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	LEPTOPHLEBIA GRA	1.2
2	PALPOMYIA-GP SP.	2.3
3	DICROTENDIPES SP	1.2
4	MICROPSECTRA SP.	2.3
5	ORTHOCLADIUS OBU	1.2
6	PROCLADIUS SP.	36
7	OLIGOCHAETA	55.8

DIVERSITY INDEX 1.48

SAMPLE: P30CG3

SPECIES DISTRIBUTION DATA

SPECIES NO.	SPECIES NAME	PERCENTAGE
1	OECETIS SP. B	1.8
2	PALPOMYIA-GP SP.	1.8
3	CRYPTOCHIRONOMUS	1.8
4	MICROPSECTRA SP.	3.6
5	POLYPEDILUM SP.B	1.8
6		33.9
7	HETEROTRISSOCLAD	1.8
8	ORTHOCLADIUS E	32.1
9	ORTHOCLADIUS NIG	1.8
10	ORTHOCLADIUS OBU	1.8
11	PROCLADIUS SP.	16.1
12	OLIGOCHAETA	1.8

DIVERSITY INDEX 2.48

Table 17. Benthic Macroinvertebrate Sample Percentage Distribution and Diversity Data, Summer 1984

Shallow Water Monitoring Stations - Kick Samples

SAMPLE: S84-01

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	10.1
2	BAETIS TRICAUDAT	15.2
3	CENTROPTILU SP.A	.1
4	ATTENELLA MARGAR	7.3
5	DRUNELLA FLAVILI	.1
6	DRUNELLA GRANDIS	.4
7	SERRATELLA TIBIA	3.5
8	TIMPANOGA HECUBA	0
9	EPEORUS ALBERTAE	.2
10	NIXE CRIDDLEI	.2
11	NIXE SIMPLICIOID	2.6
12	RHITHROGENA HAGE	1.3
13	TRICORYTHODES MI	6.7
14	ALLOPERLA-GROUP	.5
15	MALENKA SP.	0
16	ZAPADA CINCTIPES	0
17	CLAASSENI SABULO	.8
18	HESPEROPERLA PAC	0
19	ISOGENOIDES ELON	2.1
20	ISOPERLA QUINQUE	0
21	SKWALA PARALLELA	.8
22	PTERONARCELLA BA	5.6
23	PTERONARCYS CALI	.1
24	BRACHYCENTRUS OC	0
25	ARCTOPSYCHE GRAN	5.4
26	CHEUMATOPSYCHE	.7
27	HYDROPSYCHE OCCI	4.4
28	SYMPHITOPS COCKE	2.4
29	HYDROPTILA SP.	3.7
30	NEOTRICHIA SP.	.5
31	OPTIOSERVUS SPP.	2
32	ZAITZEVIA PARVUL	1.5
33	ATHERIX VARIEGAT	.7
34	MICROPSECTR SP.A	.3
35	MICROPSECTR SP.C	.3
36	MICROTENDIPES SP	0
37	PARACLADOPE SP.B	0
38	POLYPEDILUM SP.A	3.7
39	POLYPEDILUM SP.C	.1
40	PAGASTIA SP.	.1
41	CARDIOCLADI SP.C	.2
42	CRICOTOPUS SP. B	.3
43	EUKIEFFERIELLA A	.2
44	EUKIEFFERIELLA D	5.1
45	EUKIEFFERIELLA E	2.6
46	HETEROTRISSOCLAD	.7
47	ORTHOCLADIUS B	.2
48	ORTHOCLADIUS F	0
49	ORTHOCLADIUS NIG	4
50	ORTHOCLADIUS OBU	.1
51	ABLABESMYIA SP.	.2
52	SIMULIUM SP.	2.3
53	HEXATOMA SP.	.4

DIVERSITY INDEX 4.48

Table 17. Continued

SAMPLE: S84-02
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS BICAUDATU	0
2	BAETIS FLAVISTRI	1.6
3	BAETIS HAGENI	2.2
4	BAETIS INSIGNIFI	13.7
5	BAETIS TRICAUDAT	10.4
6	ATTENELLA MARGAR	.4
7	DRUNELLA DODDSI	.3
8	DRUNELLA FLAVILI	.1
9	DRUNELLA GRANDIS	.3
10	EPHEMERELLA INFR	0
11	SERRATELLA TIBIA	12.9
12	TIMPANOGA HECUBA	.1
13	EPEORUS ALBERTAE	3.2
14	NIXE CRIDDLEI	.2
15	RHITHROGENA HAGE	1.2
16	PARALEPTOPHL DEB	0
17	ALLOPERLA-GROUP	1
18	AMPHINEMURA SP.	0
19	CALINEURIA CALIF	1.4
20	CLAASSENI SABULO	1.9
21	HESPEROPERLA PAC	.3
22	SKWALA PARALLELA	.1
23	PTERONARCYS CALI	1.6
24	GLOSSOSOMA SP.	.5
25	HELICOPSYCHE BOR	0
26	ARCTOPSYCHE GRAN	1.3
27	CHEUMATOPSYCHE	2.7
28	HYDROPSYCHE OCCI	.3
29	SYMPHITOPS COCKE	3.3
30	LEUCOTRICHIA PIC	0
31	NEOTRICHIA SP.	.9
32	DICOSMOECUS SP.	.4
33	ONOCOSMOECUS SP.	0
34	WORMALDIA SP.	.5
35	PSYCHOMYIA FLAVI	.2
36	NARPUS CONCOLOR	0
37	OPTIOSERVUS SPP.	5.9
38	ZAITZEVIA PARVUL	7.7
39	ANACAENA SP.	0
40	ATHERIX VARIEGAT	0
41	CLADOTANYSARSU B	.4
42	MICROTENDIPES SP	3.3
43	PHAENOPSECTRA SP	0
44	POLYPEDILUM SP.A	2.4
45	TANYTARSUS SP. B	12.8
46	MONODIAMESA SP.	0
47	PAGASTIA SP.	0
48	CORYNONEURA SP.	.1
49	CARDIOCLADI SP.C	0
50	CRICOTOPUS SP. B	0
51	EUKIEFFERIELLA A	0
52	EUKIEFFERIELLA B	0
53	EUKIEFFERIELLA E	.3
54	ORTHOCLADIUS B	.1
55	PSECTROCLADIUS C	.1
56	THIENEMANIELL SP	.1
57	ABLABESMYIA SP.	0

Table 17. Continued

58	CHELIFERA SP.	.1
59	SIMULIUM SP.	.2
60	ANTOCHA SP.	.2
61	HEXATOMA SP.	1.8
62	PHYSA SP.	.6
63	OLIGOCHAETA LUMB	.2

DIVERSITY INDEX 4.26

Table 17. Continued

SAMPLE: S84-04
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.3
2	BAETIS INSIGNIFI	11.4
3	BAETIS TRICAUDAT	14.2
4	CENTROPTILU SP.A	.2
5	ATTENELLA MARGAR	2.7
6	DRUNELLA DODDSI	0
7	DRUNELLA FLAVILI	0
8	DRUNELLA GRANDIS	.5
9	EPHEMERELLA INFR	.1
10	SERRATELLA TIBIA	10.8
11	TIMPANOGA HECUBA	.1
12	EPEORUS ALBERTAE	.9
13	NIXE CRIDDLEI	.1
14	NIXE SIMPLICIOID	1.4
15	RHITHROGENA HAGE	.7
16	PARALEPTOPHL DEB	0
17	TRICORYTHODES MI	.5
18	ALLOPERLA-GROUP	.2
19	ZAPADA CINCTIPES	.1
20	CALINEURIA CALIF	.1
21	CLAASSENI SABULO	.1
22	HESPEROPERLA PAC	.2
23	ISOGENOIDES ELON	4.5
24	ISOPERLA QUINQUE	.1
25	SKWALA PARALLELA	.5
26	PTERONARCELLA BA	4.2
27	PTERONARCYS CALI	.7
28	RHAGOVELIA SP.	.4
29	BRACHYCENTRUS OC	.1
30	ARCTOPSYCHE GRAN	2.2
31	CHEUMATOPSYCHE	3.4
32	HYDROPSYCHE OCCI	.8
33	SYMPHITOPS COCKE	19.7
34	HYDROPTILA SP.	1
35	NEOTRICHIA SP.	.2
36	OECETIS SP. A	0
37	WORMALDIA SP.	1.3
38	PSYCHOMYIA FLAVI	1.2
39	RHYACOPHILA ANGE	0
40	PARARGYRACTIS SP	0
41	OPTIOSERVUS SPP.	1.3
42	ZAITZEVIA PARVUL	1.5
43	ATHERIX VARIEGAT	.1
44	PALPOMY-GP SP. A	0
45	MICROPSECTR SP.A	.3
46	MICROPSECTR SP.B	0
47	MICROTENDIPES SP	.4
48	PARACLADOPE SP.B	0
49	PHAENOPSECTRA SP	.1
50	POLYPEDILUM SP.A	2.3
51	POLYPEDILUM SP.C	0
52	TANYTARSUS SP. B	.6
53	PAGASTIA SP.	.1
54	CARDIOCLADI SP.C	.1
55	CRICOTOPUS SP. B	.2
56	EUKIEFFERIELLA B	1.3
57	EUKIEFFERIELLA E	1.6

Table 17. Continued

58	EUKIEFFERIELLA G	0
59	EUKIEFFERIELLA H	.1
60	ORTHOCLADIUS B	1.3
61	ORTHOCLADIUS NIG	.2
62	ORTHOCLADIUS OBU	1
63	ABLABESMYIA SP.	.1
64	CHELIFERA SP.	.1
65	SIMULIUM SP.	2.2
66	ANTOCHA SP.	.3
67	HEXATOMA SP.	.3
68	OLIGOCHAETA	0

DIVERSITY INDEX 4.22

Table 17. Continued

SAMPLE: S84-05

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.6
2	BAETIS INSIGNIFI	4.8
3	BAETIS TRICAUDAT	3.2
4	CENTROPTILU SP.A	.1
5	ATTENELLA MARGAR	5
6	SERRATELLA TIBIA	6.9
7	TIMPANOGA HECUBA	.2
8	EPEORUS ALBERTAE	1.3
9	NIXE SIMPLICIOID	4.1
10	RHITHROGENA HAGE	.4
11	PARALEPTOPHL BIC	.1
12	TRICORYTHODES MI	1.7
13	ALLOPERLA-GROUP	.1
14	CLAASSENI SABULO	.2
15	HESPEROPERLA PAC	.2
16	ISOGENOIDES ELON	3.6
17	SKWALA PARALLELA	.9
18	PTERONARCELLA BA	1.1
19	PTERONARCYS CALI	.6
20	BRACHYCENTRUS OC	.2
21	ARCTOPSYCHE GRAN	5
22	CHEUMATOPSYCHE	6.3
23	HYDROPSYCHE OCCI	.6
24	SYMPHITOPS COCKE	39.5
25	HYDROPTILA SP.	.3
26	NEOTRICHIA SP.	.1
27	WORMALDIA SP.	1
28	PSYCHOMYIA FLAVI	.1
29	OPTIOSERVUS SPP.	.4
30	ZAITZEVIA PARVUL	.8
31	MICROPSECTR SP.A	1
32	MICROTENDIPES SP	.2
33	PHAENOPSECTRA SP	.2
34	POLYPEDILUM SP.A	2.6
35	STEMPELLINELLA	.1
36	TANYTARSUS SP. B	.7
37	CORYNONEURA SP.	.1
38	EUKIEFFERIELLA A	.2
[illegible]	EUKIEFFERIELLA B	.2
40	EUKIEFFERIELLA E	3
41	HETEROTRISSOCLAD	.1
42	ORTHOCLADIUS B	.9
43	ORTHOCLADIUS NIG	.4
44	ORTHOCLADIUS O[illegible]U	.4
45	PARAMETRIOCNE SP	.1
46	PSECTROCLADIUS B	.1
47	ABLABESMYIA SP.	.1
48	CHELIFERA SP.	.1
49	HEXATOMA SP.	.2
50	OLIGOCHAETA	.1

DIVERSITY INDEX 3.67

Table 17. Continued

SAMPLE: S34-06
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	0
2	BAETIS INSIGNIFI	9
3	BAETIS TRICAUDAT	.6
4	CENTROPTILU SP.A	1.5
5	ATTENELLA MARGAR	3.1
6	EPHEMERELLA INFR	0
7	SERRATELLA TIBIA	.6
8	TIMPANOGA HECUBA	2
9	EPEORUS ALBERTAE	.1
10	NIXE CRIDDLEI	.2
11	NIXE SIMPLICIOID	6.5
12	RHITHROGENA HAGE	0
13	PARALEPTOPHL BIC	.5
14	TRICORYTHODES MI	1.5
15	CLAASSENI SABULO	0
16	HESPEROPERLA PAC	0
17	ISOGENOIDES ELON	2.4
18	SKWALA PARALLELA	.4
19	PTERONARCELLA BA	.1
20	PTERONARCYS CALI	.1
21	OPHIOGOMPHUS SP.	0
22	SIGARA SP.	.3
23	RHAGOVELIA SP.	0
24	BRACHYCENTRUS OC	.2
25	ARCTOPSYCHE GRAN	.7
26	CHEUMATOPSYCHE	16.7
27	HYDROPSYCHE OCCI	.1
28	SYMPHITOPS COCKE	17.8
29	HYDROPTILA SP.	2.4
30	NEOTRICHIA SP.	.1
31	OECETIS SP. A	.1
32	DICOSMOECUS SP.	0
33	WORMALDIA SP.	.1
34	PSYCHOMYIA FLAVI	1.4
35	OREODYTES SCITIL	.5
36	OPTIOSERVUS SPP.	.7
37	ZAITZEVIA PARVUL	2.1
38	ATHERIX VARIEGAT	0
39	CRYPTOCHIRONOMUS	0
40	MICROPSECTR SP.A	.9
41	MICROTENDIPES SP	1.9
42	PHAENOPSECTRA SP	.3
43	POLYPEDILUM SP.A	2.5
44	TANYTARSUS SP. B	.4
45	TANYTARSUS SP. C	.2
46	PAGASTIA SP.	.1
47	CORYNONEURA SP.	0
48	EUKIEFFERIELLA B	.2
49	EUKIEFFERIELLA E	1.3
50	EUKIEFFERIELLA G	.1
51	ORTHOCLADIUS B	2
52	ORTHOCLADIUS F	.1
53	ORTHOCLADIUS OBU	1.4
54	ABLABESMYIA SP.	.2
55	CHELIFERA SP.	.4
56	ANTOCHA SP.	0
57	HEXATOMA SP.	.1
58	OLIGOCHAETA	.6

DIVERSITY INDEX 4.05

Table 17. Continued

SAMPLE: S84-08

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS FLAVISTRI	.1
2	BAETIS HAGENI	.2
3	BAETIS INSIGNIFI	6
4	BAETIS TRICAUDAT	1
5	CENTROPTILU SP.A	1.1
6	CENTROPTILU SP.B	.1
7	ATTENELLA MARGAR	4
8	DRUNELLA GRANDIS	.1
9	EPHEMERELLA INFR	.1
10	SERRATELLA TIBIA	.2
11	TIMPANOGA HECUBA	.5
12	EPEORUS ALBERTAE	.2
13	NIXE CRIDDLEI	.4
14	NIXE SIMPLICIOID	2.4
15	PARALEPTOPHL BIC	.6
16	TRICORYTHODES MI	24.9
17	MALENKA SP.	.1
18	ISOGENOIDES ELON	.7
19	ISOPERLA QUINQUE	.2
20	SKWALA PARALLELA	.2
21	PTERONARCELLA BA	.2
22	PTERONARCYS CALI	.6
23	ARCTOPSYCHE GRAN	.7
24	CHEUMATOPSYCHE	4.7
25	HYDROPSYCHE OCCI	.7
26	SYMPHITOPS COCKE	10.4
27	HYDROPTILA SP.	.7
28	NEOTRICHIA SP.	.2
29	OECETIS SP. A	.3
30	WORMALDIA SP.	.1
31	PSYCHOMYIA FLAVI	.7
32	PARARGYRACTIS SP	.1
33	OPTIOSERVUS SPP.	.5
34	ZAITZEVIA PARVUL	.4
35	CHIRONOMUS SP.	.2
36	MICROPSECTR SP.A	.3
37	MICROTENDIPES SP	2.4
38	PHAENOPSECTRA SP	.3
39	POLYPEDILUM SP.A	9.8
40	POLYPEDILUM SP.C	.5
41	TANYTARSUS SP. B	2.3
42	TANYTARSUS SP. C	.2
43	MONODIAMESA SP.	.1
44	PAGASTIA SP.	.3
45	CARDIOCLADI SP.C	.5
46	CRICOTOPUS SP. B	.7
47	EUKIEFFERIELLA B	.1
48	EUKIEFFERIELLA E	1.2
49	EUKIEFFERIELLA G	.1
50	EUKIEFFERIELLA H	.1
51	ORTHOCLADIUS B	2.7
52	ORTHOCLADIUS NIG	.1
53	ORTHOCLADIUS OBU	.6
54	ABLABESMYIA SP.	.2
55	ANTOCHA SP.	.2
56	OLIGOCHAETA	14.1
57	OLIGOCHAETA LUMB	.2

DIVERSITY INDEX 3.09

Table 17. Continued

SAMPLE: S34-09

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.4
2	BAETIS INSIGNIFI	19.1
3	BAETIS TRICAUDAT	2.8
4	CENTROPTILU SP.A	.4
5	ATTENELLA MARGAR	5
6	EPHEMERELLA INFR	.1
7	SERRATELLA TIBIA	2.3
8	TIMPANOGA HECUBA	.4
9	EPEORUS ALBERTAE	.8
10	NIXE CRIDDLEI	.3
11	NIXE SIMPLICIOID	3.8
12	RHITHROGENA HAGE	.1
13	PARALEPTOPHL BIC	.2
14	PARALEPTOPHL DEB	.7
15	TRICORYTHODES MI	6.1
16	ISOGENOIDES ELON	1.6
17	ISOPERLA QUINQUE	.1
18	SKWALA PARALLELA	.3
19	PTERONARCELLA BA	.3
20	PTERONARCYS CALI	.2
21	BRACHYCENTRUS OC	.2
22	ARCTOPSYCHE GRAN	1.6
23	CHEUMATOPSYCHE	11.1
24	HYDROPSYCHE OCCI	3.7
25	SYMPHITOPS COCKE	10.4
26	HYDROPTILA SP.	6
27	OECETIS SP. A	.2
28	PSYCHOMYIA FLAVI	.8
29	OREODYTES SCITIL	.3
30	OPTIOSERVUS SPP.	.5
31	ZAITZEVIA PARVUL	.9
32	CRYPTOCHIRONOMUS	.2
33	MICROPSECTR SP.A	.7
34	MICROPSECTR SP.C	.1
35	MICROTENDIPES SP	1.4
36	PARATANYTARSUS	.1
37	PHAENOPSECTRA SP	.6
38	POLYPEDILUM SP.A	6.4
39	POLYPEDILUM SP.C	.3
40	TANYTARSUS SP. B	.5
41	PAGASTIA SP.	.2
42	CRICOTOPUS SP. D	.1
43	EUKIEFFERIELLA B	.3
44	EUKIEFFERIELLA E	1.9
45	EUKIEFFERIELLA G	.1
46	ORTHOCLADIUS B	2.9
47	ORTHOCLADIUS OBU	2.2
48	ABLABESMYIA SP.	.1
49	CHELIFERA SP.	.1
50	SIMULIUM SP.	.1
51	ANTOCHA SP.	.2
52	HEXATOMA SP.	.5
53	OLIGOCHAETA	.1

DIVERSITY INDEX 4.32

Table 17. Continued

SAMPLE: S84-10
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	AMETROPUS SP.	.1
2	BAETIS INSIGNIFI	16.3
3	BAETIS TRICAUDAT	5.3
4	ATTENELLA MARGAR	13.7
5	DRUNELLA FLAVILI	.1
6	DRUNELLA GRANDIS	.1
7	EPHEMERELLA INFR	3.4
8	SERRATELLA TIBIA	4
9	TIMPANOGA HECUBA	.1
10	EPEORUS ALBERTAE	.3
11	NIXE SIMPLICIOID	9.9
12	RHITHROGENA HAGE	4.9
13	PARALEPTOPHL BIC	.2
14	TRICORYTHODES MI	1.2
15	CLAASSENI SABULO	.2
16	ISOGENOIDES ELON	1.8
17	SKWALA PARALLELA	.8
18	PTERONARCELLA BA	1.4
19	BRACHYCENTRUS OC	.1
20	GLOSSOSOMA SP.	.6
21	PROTOPTILA SP.	.1
22	ARCTOPSYCHE GRAN	.8
23	CHEUMATOPSYCHE	2.6
24	HYDROPSYCHE SP.A	.1
25	HYDROPSYCHE OCCI	.3
26	SYMPHITOPS COCKE	3.4
27	HYDROPTILA SP.	.8
28	NEOTRICHIA SP.	.1
29	OPTIOSERVUS SPP.	8.9
30	ZAITZEVIA PARVUL	4.4
31	CLADOTANYTA SP.A	.3
32	MICROPSECTR SP.A	1.6
33	MICROTENDIPES SP	.2
34	PHAENOPSECTRA SP	.2
35	POLYPEDILUM SP.A	1.3
36	TANYTARSUS SP. B	1.3
37	TANYTARSUS SP. C	.1
38	CARDIOCLADI SP.B	.1
39	CRICOTOPUS SP. B	.2
40	EUKIEFFERIELLA B	.5
41	EUKIEFFERIELLA E	.9
42	ORTHOCLADIUS B	.5
43	ORTHOCLADIUS C	.1
44	ORTHOCLADIUS NIG	.2
45	ORTHOCLADIUS OBU	1
46	SYNORTHOCLADIUS	.1
47	THIENEMANIELL SP	.1
48	ABLABESMYIA SP.	.1
49	CHELIFERA SP.	.6
50	SIMULIUM S. .	2.7
51	PROTANYDERUS SP.	.1
52	HEXATOMA SP.	.2
53	PISIDIUM SP.	.1
54	OLIGOCHAETA	.6
55	OLIGOCHAETA LUMB	1.3
56	HIRUDINEA	.1

DIVERSITY INDEX 4.33

Table 17. Continued

SAMPLE: S84-11
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	0
2	BAETIS INSIGNIFI	21.2
3	BAETIS TRICAUDAT	7
4	CENTROPTILU SP.A	.2
5	ATTENELLA MARGAR	4.4
6	DRUNELLA GRANDIS	.1
7	EPHEMERELLA INFR	1.5
8	SERRATELLA TIBIA	2
9	EPEORUS ALBERTAE	.1
10	NIXE CRIDDLEI	.1
11	NIXE SIMPLICIOID	12.1
12	RHITHROGENA HAGE	6.3
13	PARALEPTOPHL BIC	0
14	PARALEPTOPHL DEB	.1
15	TRICORYTHODES MI	1.1
16	CLAASSENI SABULO	.2
17	ISOGENOIDES ELON	1.9
18	SKWALA PARALLELA	.1
19	PTERONARCELLA BA	.7
20	PTERONARCYS CALI	.1
21	BRACHYCENTRUS OC	.1
22	ARCTOPSYCHE GRAN	1.1
23	CHEUMATOPSYCHE	1.2
24	HYDROPSYCHE OCCI	15.8
25	SYMPHITOPS COCKE	1.7
26	HYDROPTILA SP.	2.8
27	NEOTRICHIA SP.	0
28	OECETIS SP. A	0
29	OREODYTES SCITIL	.1
30	OPTIOSERVUS SPP.	.7
31	ZAITZEVIA PARVUL	.5
32	ATHERIX VARIEGAT	.1
33	CRYPTOCHIRONOMUS	0
34	MICROPSECTR SP.A	1.2
35	MICROPSECTR SP.C	.1
36	MICROTENDIPES SP	.6
37	PARATANYTARSUS	0
38	PHAENOPSECTRA SP	.2
39	POLYPEDILUM SP.A	2.3
40	POLYPEDILUM SP.C	.2
41	CARDIOCLADI SP.C	.1
42	CRICOTOPUS SP. B	1
43	EUKIEFFERIELLA B	.5
44	EUKIEFFERIELLA E	1
45	ORTHOCLADIUS B	1.3
46	ORTHOCLADIUS NIG	0
47	ORTHOCLADIUS OBU	1.2
48	SYNORTHOCLADIUS	.1
49	CHELIFERA SP.	.6
50	SIMULIUM SP.	5.6
51	PROTANYDERUS SP.	0
52	HEXATOMA SP.	.2
53	OLIGOCHAETA	0

DIVERSITY INDEX 4

Table 17. Continued

SAMPLE: S34-13

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	9.5
2	BAETIS TRICAUDAT	.8
3	CENTROPTILU SP.A	6.9
4	ATTENELLA MARGAR	10.1
5	DRUNELLA GRANDIS	.1
6	EPHEMERELLA INFR	1.9
7	SERRATELLA TIBIA	.1
8	NIXE SIMPLICIOID	40.6
9	PARALEPTOPHL BIC	1.4
10	PARALEPTOPHL DEB	1.2
11	TRICORYTHODES MI	7.6
12	CLAASSENI SABULO	.1
13	ISOGENOIDES ELON	2.8
14	ISOPERLA QUINQUE	.1
15	SKWALA PARALLELA	.1
16	BRACHYCENTRUS OC	.1
17	ARCTOPSYCHE GRAN	.9
18	CHEUMATOPSYCHE	.4
19	HYDROPSYCHE OCCI	.8
20	SYMPHITOPS COCKE	.4
21	HYDROPTILA SP.	4.2
22	LEPIDOSTOMA SP.A	.1
23	OECETIS SP. A	.6
24	ORMODYTES SCITIL	.6
25	OPTIOSERVUS SPP.	.2
26	ZAITZEVIA PARVUL	.2
27	ATHERIX VARIEGAT	.1
28	MICROPSECTR SP.A	.8
29	MICROPSECTR SP.C	.1
30	MICROTENDIPES SP	.9
31	PARACLADOPE SP.B	.1
32	PHAENOPSECTRA SP	.6
33	POLYPEDILUM SP.A	1.2
34	POLYPEDILUM SP.C	.4
35	TANYTARSUS SP. B	.3
36	CARDIOCLADI SP.C	.1
37	EUKIEFFERIELLA B	.1
38	EUKIEFFERIELLA E	.1
39	ORTHOCLADIUS B	.4
40	ORTHOCLADIUS OBU	.9
41	ABLABESMYIA SP.	.2
42	CHELIFERA SP.	.1
43	HEXATOMA SP.	.6
44	OLIGOCHAETA	[illegible].4

DIVERSITY INDEX 3.[illegible]

Table 17. Continued

SAMPLE: S84-14
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.1
2	BAETIS INSIGNIFI	23.3
3	BAETIS TRICAUDAT	2.2
4	CENTROPTILU SP.A	.3
5	ATTENELLA MARGAR	5.5
6	EPHEMERELLA INFR	.4
7	SERRATELLA TIBIA	.3
8	TIMPANOGA HECUBA	.3
9	NIXE CRIDDLEI	.3
10	NIXE SIMPLICIOID	17.5
11	PARALEPTOPHL DEB	.1
12	TRICORYTHODES MI	4.7
13	CLAASSENI SABULO	.1
.4	ISOGENOIDES ELON	1.3
15	BRACHYCENTRUS OC	.3
16	ARCTOPSYCHE GRAN	.1
17	CHEUMATOPSYCHE	2.2
18	HYDROPSYCHE OCCI	2
19	SYMPHITOPS COCKE	.3
20	SYMPHITOPS SLOSS	.1
21	HYDROPTILA SP.	10.8
22	OECETIS SP. A	.5
23	OPTIOSERVUS SPP.	.1
24	ZAITZEVIA PARVUL	.1
25	CRYPTOCHIRONOMUS	.4
26	DICROTENDIP SP.C	.1
27	MICROPSECTR SP.A	.7
28	MICROPSECTR SP.C	.1
29	MICROTENDIPES SP	15.1
30	PHAENOPSECTRA SP	.8
31	POLYPEDILUM SP.A	2.7
32	POLYPEDILUM SP.C	.1
33	TANYTARSUS SP. B	.1
34	CARDIOCLADI SP.C	.1
35	CRICOTOPUS SP. B	.1
36	EUKIEFFERIELLA E	.4
37	ORTHOCLADIUS B	.8
38	ORTHOCLADIUS OBU	1.7
39	ABLABESMYIA SP.	.1
40	SIMULIUM SP.	.3
41	HEXATOMA SP.	.4
42	OLIGOCHAETA	2.8

DIVERSITY INDEX 3.62

Table 17. Continued

SAMPLE: S34-15
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	26.2
2	BAETIS TRICAUDAT	7.3
3	CENTROPTILU SP.A	.4
4	ATTENELLA MARGAR	5.3
5	EPHEMERELLA INFR	.7
6	SERRATELLA TIBIA	1
7	NIXE CRIDDLEI	.1
8	NIXE SIMPLICIOID	15.3
9	RHITHROGENA HAGE	.2
10	PARALEPTOPHL BIC	1
11	PARALEPTOPHL DEB	.2
12	TRICORYTHODES MI	4.2
13	CLAASSENI SABULO	.4
14	ISOGENOIDES ELON	.1
15	SKWALA PARALLELA	.1
16	BRACHYCENTRUS OC	.1
17	ARCTOPSYCHE GRAN	.6
18	CHEUMATOPSYCHE	1.8
19	HYDROPSYCHE OCCI	14.4
20	SYMPHITOPS COCKE	.5
21	HYDROPTILA SP.	1.2
22	OECETIS SP. A	.1
23	OREODYTES SCITIL	1.1
24	OPTIOSERVUS SPP.	.6
25	ZAITZEVIA PARVUL	.1
26	MICROPSECTR SP.A	1.3
27	MICROPSECTR SP.C	.1
28	MICROTENDIPES SP	.8
29	PARATANYTARSUS	.1
30	PHAENOPSECTRA SP	2.1
31	POLYPEDILUM SP.A	4.8
32	POLYPEDILUM SP.C	.1
33	ROBACKIA SP.	.1
34	TANYTARSUS SP. B	.1
35	CORYNONEURA SP.	.1
36	CRICOTOPUS SP. B	.2
37	EUKIEFFERIELLA B	.2
38	EUKIEFFERIELLA E	1.7
39	EUKIEFFERIELLA H	.1
40	ORTHOCLADIUS B	.5
41	ORTHOCLADIUS NIG	.2
42	ORTHOCLADIUS OBU	2.3
43	SYNORTHOCLADIUS	.4
44	ABLABESMYIA SP.	.2
45	SIMULIUM SP.	1.3
46	HEXATOMA SP.	.1
47	OLIGOCHAETA	.1

DIVERSITY INDEX 3.74

Table 17. Continued

SAMPLE: S34-19
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	9.1
2	BAETIS TRICAUDAT	.4
3	CENTROPTILU SP.A	5.3
4	CENTROPTILU SP.B	1.4
5	ATTENELLA MARGAR	7.3
6	DRUNELLA GRANDIS	.2
7	EPHEMERELLA INFR	.1
8	SERRATELLA TIBIA	.4
9	EPEORUS ALBERTAE	.1
10	NIXE CRIDDLEI	.3
11	NIXE SIMPLICIOID	6
12	PARALEPTOPHL BIC	.4
13	PARALEPTOPHL DEB	.9
14	PARATEPLOPHLEBIA	0
15	TRICORYTHODES MI	2.1
16	CLAASSENI SABULO	0
17	HESPEROPERLA PAC	0
18	ISOGENOIDES ELON	1.1
19	ISOPERLA QUINQUE	0
20	SKWALA PARALLELA	.2
21	SIGARA SP.	.2
22	BRACHYCENTRUS OC	0
23	GLOSSOSOMA SP.	0
24	ARCTOPSYCHE GRAN	.3
25	CHEUMATOPSYCHE	19.1
26	HYDROPSYCHE OCCI	9.9
27	SYMPHITOPS COCKE	7.8
28	HYDROPTILA SP.	6.8
29	NEOTRICHIA SP.	0
30	OECETIS SP. A	.2
31	PSYCHOMYIA FLAVI	3.3
32	OREODYTES SCITIL	.2
33	OPTIOSERVUS SPP.	.3
34	ZAITZEVIA PARVUL	.2
35	BRYCHIUS SP.	0
36	CRYPTOCHIRONOMUS	.1
37	LENZIELLA SP.	0
38	MICROPSECTR SP.A	2.4
39	MICROTENDIPES SP	7.6
40	POLYPEDILUM SP.A	1.8
41	TANYTARSUS SP. A	.2
42	XENOCHIRONOMUS	.1
43	PAGASTIA SP.	.1
44	CORYNONEURA SP.	0
45	EUKIEFFERIELLA B	.2
46	EUKIEFFERIELLA E	.9
47	ORTHOCLADIUS B	.9
48	ORTHOCLADIUS C	.1
49	ORTHOCLADIUS HIG	.2
50	ORTHOCLADIUS OBU	.2
51	SYNORTHOCLADIUS	.1
52	ABLABESMYIA SP.	.1
53	ANTOCHA SP.	.2
54	OLIGOCHAETA	0

DIVERSITY INDEX 4.05

Table 17. Continued

SAMPLE: 384-21
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.3
2	BAETIS INSIGNIFI	2.5
3	BAETIS TRICAUDAT	1.4
4	CENTROPTILU SP.A	.3
5	CENTROPTILU SP.B	.7
6	ATTENELLA MARGAR	11.8
7	DRUNELLA GRANDIS	.2
8	EPHEMERELLA INFR	.5
9	SERRATELLA TIBIA	2.7
10	TIMPANOGA HECUBA	1.4
11	EPEORUS ALBERTAE	2.7
12	HEPTAGENIA SOLIT	1
13	NIXE CRIDDLEI	0
14	NIXE SIMPLICIOID	3.3
15	PARALEPTOPHL BIC	1.5
16	PARALEPTOPHL DEB	.9
17	TRICORYTHODES MI	5.3
18	CLAASSENI SABULO	.4
19	ISOGENOIDES ELON	1.6
20	SKWALA PARALLELA	.1
21	PTERONARCYS CALI	.2
22	RHAGOVELIA SP.	0
23	BRACHYCENTRUS OC	.8
24	ARCTOPSYCHE GRAN	2.6
25	CHEUMATOPSYCHE	17.3
26	HYDROPSYCHE OCCI	2.5
27	SYMPHITOPS COCKE	6.7
28	SYMPHITOPS SLOSS	.6
29	HYDROPTILA SP.	5.6
30	NEOTRICHIA SP.	.1
31	CERACLEA SP.	.2
32	OECETIS SP. A	.7
33	DICOSMOECUS SP.	0
34	PSYCHOMYIA FLAVI	1.9
35	OREODYTES SCITIL	.1
36	OPTIOSERVUS SPP.	.5
37	ZAITZEVIA PARVUL	.3
38	CRYPTOCHIRONOMUS	.2
39	MICROPSECTR SP.A	.6
40	MICROTENDIPES SP	12.6
41	PHAENOPSECTRA SP	.6
42	POLYPEDILUM SP.A	1.6
43	POLYPEDILUM SP.C	0
44	TANYTARSUS SP. B	.3
45	PAGASTIA SP.	.3
46	EUKIEFFERIELLA D	0
47	EUKIEFFERIELLA E	1.[illegible]
48	ORTHOCLADIUS B	1.1
49	ORTHOCLADIUS OBU	.[illegible]
50	[illegible]	.1
51	SYNORTHOCLADIUS	.2
52	ABLABESMYIA SP.	.2
53	SIMULIUM SP.	0
54	OLIGOCHAETA	.2
55	OLIGOCHAETA LUMB	.5
56	HIRUDINEA	0

DIVERSITY INDEX 4.39

Table 17. Continued

SAMPLE: S34-23
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	.2
2	CENTROPTILU SP.A	.2
3	CAENIS SIMULANS	.2
4	ATTENELLA MARGAR	[illegible].7
5	HEXAGENIA LIMBAT	.2
6	NIXE CRIDDLEI	.5
7	NIXE SIMPLICIOID	6.1
8	STENONEMA SP.	2.5
9	PARALEPTOPHL BIC	3.2
10	PARALEPTOPHL DEB	[illegible]
11	TRICORYTHODES MI	.7
12	AESHNA SP.	.5
13	OPHIOGOMPHUS SP.	1.2
14	CHEUMATOPSYCHE	.5
15	HYDROPTILA SP.	.2
16	LEPIDOSTOMA SP.A	.2
17	CERACLEA SP.	.2
18	DICOSMOECUS SP.	.5
19	PARARGYRACTIS SP	.2
20	CREODYTES SCITIL	.2
21	DUBIRAPHIA SP.	2.2
22	P.LPOMY-GP SP. B	.2
23	DICROTENDIP SP.B	.5
24	MICROTENDIPES SP	17.2
25	PARACHIRONOMUS	1.2
26	POLYPEDILUM SP.A	.2
27	XENOCHIRONOMUS	.2
28	PAGASTIA SP.	1
29	ORTHOCLADIUS B	.5
30	ABLABESMYIA SP.	1
31	HYALELLA AZTECA	10.3
32	GYRAULUS SP.	11.5
33	LYMNAEA SP.	1.7
34	PHYSA SP.	26.2
35	OLIGOCHAETA	.2
36	OLIGOCHAETA LUMB	1.2
37	DINA SP.	1
38	DINA SP.	1

DIVERSITY INDEX 3.7

Table 17. Continued

SAMPLE: S34-24
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.4
2	BAETIS TRICAUDAT	.2
3	CENTROPTILU SP.A	.4
4	ATTENELLA MARGAR	3
5	TIMPANOGA HECUBA	.1
6	EPEORUS ALBERTAE	.1
7	HEPTAGENIA SOLIT	.4
8	NIXE CRIDDLEI	.2
9	NIXE SIMPLICIOID	7.7
10	STENONEMA SP.	1.6
11	PARALEPTOPHL BIC	2.3
12	PARALEPTOPHL DEB	.2
13	TRICORYTHODES MI	4.2
14	ISOGENOIDES ELON	.1
15	PTERONARCYS CALI	.1
16	OPHIOGOMPHUS SP.	.1
17	ARCTOPSYCHE GRAN	.1
18	CHEUMATOPSYCHE	16.4
19	HYDROPSYCHE OCCI	.1
20	SYMPHITOPS COCKE	5.9
21	HYDROPTILA SP.	1.4
22	OREODYTES SCITIL	.8
23	ZAITZEVIA PARVUL	1.3
24	CHIRONOMUS SP.	.1
25	CRYPTOCHIRONOMUS	.2
26	MICROPSECTR SP.A	1.2
27	MICROTENDIPES SP	39.2
28	PHAENOPSECTRA SP	.1
29	POLYPEDILUM SP.A	1.1
30	SYMPOTHASTIA SP	.1
31	EUKIEFFERIELLA E	.6
32	ORTHOCLADIUS B	4
33	ORTHOCLADIUS OBU	5.1
34	SYNORTHOCLADIUS	.1
35	ABLABESMYIA SP.	.2
36	PROCLADIUS SP. A	.1
37	SIMULIUM SP.	.1
38	HYALELLA AZTECA	.1
39	OLIGOCHAETA LUMB	.2

DIVERSITY INDEX 3.25

Table 17. Continued

SAMPLE: 384-25
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.7
2	BAETIS TRICAUDAT	.2
3	CENTROPTILU SP.A	.9
4	ATTENELLA MARGAR	13.1
5	SERRATELLA TIBIA	.4
6	TIMPANOGA HECUBA	1.4
7	EPEORUS ALBERTAE	.6
8	HEPTAGENIA SOLIT	.4
9	NIXE SIMPLICIOID	3.6
10	STENONEMA SP.	1.3
11	TRICORYTHODES MI	[illegible]
12	CLAASSENI SABULO	.1
13	ISOGENOIDES ELON	.1
14	OPHIOGOMPHUS SP.	.3
15	SIGARA SP.	.1
16	GLOSSOSOMA SP.	.2
17	CHEUMATOPSYCHE	33
18	HYDROPSYCHE OCCI	.2
19	SYMPHITOPS COCKE	2.1
20	HYDROPTILA SP.	.3
21	OECETIS SP. A	.2
22	DICOSMOECUS SP.	.2
23	PSYCHOMYIA FLAVI	.6
24	PARARGYRACTIS SP	.1
25	OREODYTES SCITIL	1.2
26	ZAITZEVIA PARVUL	1.1
27	CRYPTOCHIRONOMUS	1.6
28	MICROPSECTR SP.A	1.5
29	MICROTENDIPES SP	5.5
30	POLYPEDILUM SP.A	.6
31	XENOCHIRONOMUS	.1
32	CARDIOCLADIUS SP	.2
33	ORTHOCLADIUS B	1.3
34	ORTHOCLADIUS NIG	.1
35	ORTHOCLADIUS OBU	[illegible].2
36	SYNORTHOCLADIUS	.1
37	ABLABESMYIA SP.	1.5
38	SIMULIUM SP.	.1
39	HEXATOMA SP.	.1
40	HYALELLA AZTECA	.1
41	LYMNAEA SP.	1.2
42	OLIGOCHAETA LUMB	2.5

DIVERSITY INDEX 3.51

Table 17. Continued

SAMPLE: S84-27

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	1.1
2	CENTROPTILU SP.A	14
3	ATTENELLA MARGAR	1.1
4	HEPTAGENIA SOLIT	1.1
5	NIXE SIMPLICIOID	1.1
6	STENONEMA SP.	1.1
7	TRICORYTHODES MI	2.2
8	PARARGYRACTIS SP	1.1
9	DUBIRAPHIA SP.	1.1
10	OPTIOSERVUS SPP.	1.1
11	MICROTENDIPES SP	2.2
12	PARACHIRONOMUS	2.2
13	HYALELLA AZTECA	1.1
14	OLIGOCHAETA	1.1
15	OLIGOCHAETA LUMB	68.8

DIVERSITY INDEX 1.03

SAMPLE: S84-31

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	HELOPHORUS SP.	2.9
2	OLIGOCHAETA LUMB	97.1

DIVERSITY INDEX .19

Table 17. Deep Water Monitoring Stations - Petite Ponar Grab Samples

SAMPLE: 03-2/7

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CRICOTOPUS SP. E	100

DIVERSITY INDEX 0

SAMPLE: 13/7

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	.6
2	CENTROPTILU SP.A	1.3
3	NIXE SIMPLICIOID	.6
4	RHITHROGENA HAGE	.6
5	TRICORYTHODES MI	9.7
6	HYDROPTILA SP.	1.9
7	OPTIOSERVUS SPP.	.6
8	CHIRONOMUS SP.	1.3
9	CRYPTOCHIRONOMUS	1.9
10	MICROTENDIPES SP	15.6
11	PARACLADOPE SP.C	.6
12	PARATANYTARSUS	2.6
13	PHAENOPSECTRA SP	56.5
14	RHEOTANYTARSUS	1.3
15	ORTHOCLADIUS OBU	.6
16	OLIGOCHAETA	3.9

DIVERSITY INDEX 2.28

SAMPLE: 15/7

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	NIXE SIMPLICIOID	4.6
2	PARALEPTOPHL DEB	1.1
3	TRICORYTHODES MI	3.4
4	CHEUMATOPSYCHE	1.1
5	MICROTENDIPES SP	20.7
6	PHAENOPSECTRA SP	18.4
7	RHEOTANYTARSUS	1.1
8	ORTHOCLADIUS OBU	1.1
9	PSECTROCLADIUS B	3.4
10	OLIGOCHAETA	44.8

DIVERSITY INDEX 2.27

Table 17. Continued

SAMPLE: 16/7

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.9
2	CENTROPTILU SP.A	.9
3	NIXE SIMPLICIOID	3.8
4	RHITHROGENA HAGE	.9
5	PARALEPTOPHL DEB	.9
6	TRICORYTHODES MI	.9
7	HYDROPTILA SP.	4.7
8	PSYCHOMYIA FLAVI	.9
9	CRYPTOCHIRONOMUS	2.8
10	MICROTENDIPES SP	3.8
11	PARACLADOPE SP.B	.9
12	PARACLADOPE SP.C	2.8
13	PHAENOPSECTRA SP	17.9
14	ROBACKIA SP.	.9
15	RHEOTANYTARSUS	2.8
16	CORYNONEURA SP.	.9
17	ORTHOCLADIUS B	1.9
18	ORTHOCLADIUS NIG	3.8
19	ORTHOCLADIUS OBU	2.8
20	PSECTROCLADIUS B	.9
21	SYNORTHOCLADIUS	4.7
22	OLIGOCHAETA	38.7

DIVERSITY INDEX 3.25

SAMPLE: 17/7

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	10
2	NIXE SIMPLICIOID	40
3	RHITHROGENA HAGE	10
4	HYDROPSYCHE SP.B	10
5	SYMPHITOPS SP. A	10
6	RHEOTANYTARSUS	10
7	CARDIOCLADIUS SP	10

DIVERSITY INDEX 2.52

SAMPLE: 18/7

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	9.1
2	NIXE SIMPLICIOID	9.1
3	TRICORYTHODES MI	18.2
4	MICROTENDIPES SP	45.5
5	PSECTROCLADIUS B	9.1
6	OLIGOCHAETA	9.1

DIVERSITY INDEX 2.22

SAMPLE: 20/7

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CENTROPTILU SP.A	3.4
2	NIXE SIMPLICIOID	3.4
3	MICROTENDIPES SP	37.9
4	PHAENOPSECTRA SP	6.9
5	POLYPEDILUM SP.A	3.4
6	MONODIAMESA SP.	6.9
7	ODONTOMESA SP.	3.4
8	OLIGOCHAETA	34.5

DIVERSITY INDEX [illegible]

Table 17. Continued

SAMPLE: 20.5/7
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	NIXE SIMPLICIOID	1.2
2	PARACLADOPE SP.B	2.4
3	PHAENOPSECTRA SP	3.7
4	POLYPEDILUM SP.A	1.2
5	MONODIAMESA SP.	9.8
6	ODONTOMESA SP.	1.2
7	EUKIEFFERIELLA F	4.9
8	OLIGOCHAETA	75.6

DIVERSITY INDEX 1.38

SAMPLE: S84-21
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	NIXE SIMPLICIOID	1.7
2	CRYPTOCHIRONOMUS	3.4
3	MICROTENDIPES SP	32.2
4	PARACLADOPE SP.B	10.2
5	POLYPEDILUM SP.A	18.6
6	RHEOTANYTARSUS	1.7
7	CORYNONEURA SP.	3.4
8	ORTHOCLADIUS NIG	1.7
9	ORTHOCLADIUS OBU	1.7
10	PSECTROCLADIUS B	3.4
11	SYNORTHOCLADIUS	1.7
12	OLIGOCHAETA	20.3

DIVERSITY INDEX 2.73

SAMPLE: 21.5/7
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	NIXE SIMPLICIOID	2.4
2	TRICORYTHODES MI	2.4
3	CRYPTOCHIRONOMUS	4.9
4	MICROTENDIPES SP	17.1
5	POLYPEDILUM SP.A	2.4
6	RHEOTANYTARSUS	2.4
7	OLIGOCHAETA	68.3

DIVERSITY INDEX 1.55

SAMPLE: 22/7
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CENTROPTILU SP.A	7.7
2	ATTENELLA MARGAR	7.7
3	NIXE SIMPLICIOID	15.4
4	NEOTRICHIA SP.	15.4
5	RHEOTANYTARSUS	53.8

DIVERSITY INDEX 1.88

Table 17. Continued

SAMPLE: S84-26
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	EPEORUS ALBERTAE	.1
2	SYMPHITOPS COCKE	.1
3	OPTIOSERVUS SPP.	.1
4	CHIRONOMUS SP.	1.6
5	CRYPTOCHIRONOMUS	.1
6	CRYPTOTENDIPE SP	1
7	MICROPSECTR SP.B	.1
8	PARALAUTERBORNIE	8
9	PARATANYTARSUS	.1
10	PHAENOPSECTRA SP	6
11	POLYPEDILUM SP.C	30.6
12	STEMPELLINELLA	.3
13	TANYTARSUS SP. A	.6
14	MONODIAMESA SP.	.3
15	ORTHOCLADIUS OBU	.1
16	PSECTROCLADIUS A	.1
17	PROCLADIUS SP. A	1.7
18	OLIGOCHAETA	49.4

DIVERSITY INDEX 1.97

SAMPLE: S84-28A
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP.	3.1
2	CRYPTOTENDIPE SP	.6
3	PROCLADIUS SP. A	22
4	OLIGOCHAETA	74

DIVERSITY INDEX 1.01

SAMPLE: S84-28B
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	PALPOMY-GP SP. A	.2
2	CHIRONOMUS SP.	4.2
3	CRYPTOTENDIPE SP	.5
4	HARNISCHIA SP.	3
5	TANYTARSUS SP. A	1.2
6	PROCLADIUS SP. A	7.9
7	PROCLADIUS SP. B	.7
8	OSTRACODA	.5
9	UNIONICOLA SP.	.2
10	OLIGOCHAETA	81.4

DIVERSITY INDEX 1.12

Table 17. Continued

SAMPLE: S84-30
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	PALPOMY-GP SP. A	2.4
2	CLADOTANYTA SP.A	12.2
3	CRYPTOTENDIPE SP	12.2
4	HARNISCHIA SP.	7.3
5	LENZIELLA SP.	4.9
6	MICROPSECTR SP.B	4.9
7	PAGASTIELLA SP.	22
8	PARATANYTARSUS	4.9
9	POLYPEDILUM SP.B	4.9
10	STEMPELLINA SP.	4.9
11	HETEROTRISSOCLAD	4.9
12	PROCLADIUS SP. A	4.9
13	CLADOCERA	2.4
14	HYALELLA AZTECA	2.4
15	LYMNAEA SP.	2.4
16	OLIGOCHAETA	2.4

DIVERSITY INDEX 3.64

Table 17. Benthic Macroinvertebrate Sample Percentage Distribution and Diversity Data, Fall 1984

Shallow Water Monitoring Stations - Kick Samples

SAMPLE: F84-01

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.4
2	BAETIS TRICAUDAT	1.8
3	DRUNELLA GRANDIS	.1
4	EPHEMERELLA INFR	57.5
5	CINYGMULA SP.	.1
6	EPEORUS ALBERTAE	.1
7	RHITHROGENA HAGE	6.1
8	PARALEPTOPHL MEM	.4
9	AMELETUS VELOX	.1
10	CAPNIA-GROUP SP.	0
11	ALLOPERLA-GROUP	.2
12	PROSTOIA BESAMET	.1
13	ZAPADA CINCTIPES	.2
14	CLAASSENI SABULO	.4
15	HESPEROPERLA PAC	0
16	CULTUS PILATUS	0
17	ISOGENOIDES ELON	.3
18	ISOPERLA FULVA	2.5
19	ISOPERLA QUINQUE	.3
20	SKWALA PARALLELA	.1
21	PTERONARCELLA BA	1
22	PTERONARCYS CALI	0
23	TAENIONEMA PACIF	.2
24	BRACHYCENTRUS OC	0
25	ARCTOPSYCHE GRAN	.8
26	CHEUMATOPSYCHE	.6
27	HYDROPSYCHE OCCI	19
28	SYMPHITOPS COCKE	.5
29	SYMPHITOPS SLOSS	1.7
30	HYDROPTILA SP.	.2
31	LEPIDOSTOMA SP.A	.7
32	CERACLEA SP.	0
33	OECETIS SP. A	.1
34	OPTIOSERVUS SPP.	.7
35	ZAITZEVIA PARVUL	.7
36	ATHERIX VARIEGAT	.1
37	MICROPSECTR SP.A	0
38	MICROTENDIPES SP	0
39	POLYPEDILUM SP.A	0
40	DIAMESA SP. B	.1
41	CRICOTOPUS SP. B	.3
42	EUKIEFFERIELLA B	.9
43	EUKIEFFERIELLA E	.2
44	EUKIEFFERIELLA H	.1
45	ORTHOCLADIUS B	.1
46	ORTHOCLADIUS OBU	.2
47	SIMULIUM SP.	.4
48	HEXATOMA SP.	.6

DIVERSITY INDEX 2.39

Table 17. Continued

SAMPLE: F84-02

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.9
2	BAETIS TRICAUDAT	3.2
3	DRUNELLA DODDSI	.1
4	DRUNELLA GRANDIS	.1
5	EPHEMERELLA INFR	[illegible]
6	EPEORUS ALBERTAE	[illegible]
7	HEPTAGENIA SOLIT	[illegible]
8	RHITHROGENA HAGE	[illegible]
9	PARALEPTOPHL MEM	3.5
10	AMELETUS VELOX	.1
11	CAPNIA-GROUP SP.	.3
12	ALLOPERLA-GROUP	2.2
13	ZAPADA CINCTIPES	.3
14	CALINEURIA CALIF	1.3
15	CLAASSENI SABULO	3
16	HESPEROPERLA PAC	.2
17	CULTUS PILATUS	.1
18	ISOPERLA FULVA	1.1
19	ISOPERLA QUINQUE	0
20	SKWALA PARALLELA	.2
21	PTERONARCYS CALI	.3
22	HELICOPSYCHE BOR	.4
23	ARCTOPSYCHE GRAN	.2
24	CHEUMATOPSYCHE	6.7
25	HYDROPSYCHE OCCI	2
26	SYMPHITOPS COCKE	1.4
27	SYMPHITOPS SLOSS	12.7
28	HYDROPTILA SP.	2.9
29	LEUCOTRICHIA PIC	.1
30	LEPIDOSTOMA SP.A	.8
31	OECETIS SP. A	.1
32	APATANIA SP.	0
33	PSYCHOMYIA FLAVI	.5
34	RHYACOPHILA BIFI	.3
35	PARARGYRACTIS SP	.1
36	OREODYTES SCITIL	0
37	OPTIOSERVUS SPP.	2.4
38	ZAITZEVIA PARVUL	2.8
39	ATHERIX VARIEGAT	0
40	MICROTENDIPES SP	.3
41	POLYPEDILUM SP.A	.1
42	POLYPEDILUM SP.C	0
43	RHEOTANYTARSUS	.6
44	TANYTARSUS SP. B	0
45	POTTHASTIA SP.	.1
46	CRICOTOPUS SP. B	2.1
47	EUKIEFFERIELLA B	.5
48	EUKIEFFERIELLA E	0
49	EUKIEFFERIELLA H	.5
50	ORTHOCLADIUS B	.7
51	ORTHOCLADIUS OBU	.7
52	THIENEMANIELL SP	0

53	ABLABESMYIA SP.	.1
54	WIEDEMANNIA SP.	.1
55	SIMULIUM SP.	.1
56	ANTOCHA SP.	.1
57	HEXATOMA SP.	1.4
58	SPERCHON SP.	.1
59	PHYSA SP.	.6
60	OLIGOCHAETA	0
61	OLIGOCHAETA LUMB	.3
62	TURBELLARI	.1

DIVERSITY INDEX 3.93

Table 17. Continued

SAMPLE: F34-04
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.1
2	BAETIS TRICAUDAT	1.6
3	DRUNELLA DODDSI	.1
4	DRUNELLA GRANDIS	.5
5	EPHEMERELLA INFR	17.2
6	RHITHROGENA HAGE	3.2
7	PARALEPTOPHL MEM	.3
8	AMELETUS VELOX	.1
9	CAPNIA-GROUP SP.	.3
10	ALLOPERLA-GROUP	.1
11	ZAPADA CINCTIPES	.2
12	CLAASSENI SABULO	.3
13	HESPEROPERLA PAC	.1
14	ISOGENOIDES ELON	.5
15	ISOPERLA FULVA	3.1
16	ISOPERLA QUINQUE	.1
17	SKWALA PARALLELA	.1
18	PTERONARCELLA BA	.5
19	PTERONARCYS CALI	.4
20	TAENIONEMA PACIF	.6
21	BRACHYCENTRUS OC	.1
22	ARCTOPSYCHE GRAN	.8
23	CHEUMATOPSYCHE	14.9
24	HYDROPSYCHE OCCI	28.9
25	SYMPHITOPS COCKE	7.7
26	SYMPHITOPS SLOSS	2.3
27	HYDROPTILA SP.	5.4
28	LEPIDOSTOMA SP.A	.1
29	PSYCHOMYIA FLAVI	1.1
30	RHYACOPHILA BIFI	.3
31	PARARGYRACTIS SP	.4
32	OPTIOSERVUS SPP.	1.1
33	ZAITZEVIA PARVUL	1.6
34	MICROTENDIPES SP	2
35	POLYPEDILUM SP.A	.2
36	RHEOTANYTARSUS	.1
37	CRICOTOPUS SP. B	.3
38	EUKIEFFERIELLA B	1.7
39	EUKIEFFERIELLA E	.3
40	EUKIEFFERIELLA H	.3
41	ORTHOCLADIUS B	.2
42	ORTHOCLADIUS OBU	.3
43	ABLABESMYIA SP.	.2
44	WIEDEMANNIA SP.	.1
45	SIMULIUM SP.	.3
46	ANTOCHA SP.	.1
47	OLIGOCHAETA LUMB	.1

DIVERSITY INDEX 3.54

Table 17. Continued

SAMPLE: F84-05
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	1.2
2	BAETIS TRICAUDAT	.8
3	DRUNELLA GRANDIS	.1
4	EPHEMERELLA INFR	31.9
5	CINYGMULA SP.	.1
6	HEPTAGENIA SOLIT	.1
7	RHITHROGENA HAGE	4.1
8	PARALEPTOPHL MEM	.6
9	AMELETUS VELOX	.4
10	CAPNIA-GROUP SP.	.6
11	ALLOPERLA-GROUP	.2
12	ZAPADA CINCTIPES	.1
13	CLAASSENI SABULO	.2
14	HESPEROPERLA PAC	.3
15	CULTUS PILATUS	.1
16	ISOGENOIDES ELON	.6
17	ISOPERLA FULVA	4.5
18	ISOPERLA QUINQUE	.2
19	SKWALA PARALLELA	.2
20	PTERONARCELLA BA	.2
21	PTERONARCYS CALI	.2
22	TAENIONEMA PACIF	.1
23	ARCTOPSYCHE GRAN	1.2
24	CHEUMATOPSYCHE	9
25	HYDROPSYCHE OCCI	23.7
26	SYMPHITOPS COCKE	8.9
27	SYMPHITOPS SLOSS	1.6
28	HYDROPTILA SP.	.8
29	LEPIDOSTOMA SP.A	.1
30	OECETIS SP. A	.2
31	PSYCHOMYIA FLAVI	.4
32	RHYACOPHILA BIFI	.2
33	OPTIOSERVUS SPP.	.6
34	ZAITZEVIA PARVUL	.7
35	MICROTENDIPES SP	.1
36	POLYPEDILUM SP.A	.1
37	CRICOTOPUS SP. B	1.4
38	EUKIEFFERIELLA B	2.3
39	EUKIEFFERIELLA E	.1
40	EUKIEFFERIELLA H	.2
41	HETEROTRISSOCLAD	.1
42	ORTHOCLADIUS B	.7
43	ORTHOCLADIUS OBU	.4
44	ABLABESMYIA SP.	.1
45	WIEDEMANNIA SP.	.3
46	SIMULIUM SP.	.1
47	ANTOCHA SP.	.1
48	HEXATOMA SP.	.9

DIVERSITY INDEX 3.31

Table 17. Continued

SAMPLE: F84-06

SPECIES DISTRIBUTION DAT..

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.9
2	BAETIS TRICAUDAT	1.1
3	DRUNELLA GRANDIS	.2
4	EPHEMERELLA INFR	45.2
5	CINYGMULA SP.	.1
6	HEPTAGENIA SOLIT	1.9
7	RHITHROGENA HAGE	3.3
8	PARALEPTOPHL MEM	.6
9	AMELETUS VELOX	.1
10	ALLOPERLA-GROUP	.1
11	CLAASSENI SABULO	.1
12	HESPELOPERLA PAC	.1
13	CULTUS PILATUS	1
14	ISOGENOIDES ELON	.5
15	ISOPERLA FULVA	1.6
16	ISOPERLA QUINQUE	.2
17	SKWALA PARALLELA	.1
18	PTERONARCELLA BA	.3
19	PTERONARCYS CALI	.1
20	OPHIOGOMPHUS SP.	.1
21	BRACHYCENTRUS AM	.1
22	BRACHYCENTRUS OC	.1
23	ARCTOPSYCHE GRAN	.2
24	CHEUMATOPSYCHE	15.7
25	HYDROPSYCHE OCCI	7.5
26	SYMPHITOPS COCKE	3
27	HYDROPTILA SP.	1.7
28	ZUMATRICHIA NOTO	.1
29	LEPIDOSTOMA SP.A	.1
30	CERACLEA SP.	.1
31	OECETIS SP. A	4.5
32	PSYCHOMYIA FLAVI	3
33	RHYACOPHILA BIFI	.1
34	PARARGYRACTIS SP	.2
35	OREODYTES SCITIL	.1
36	OPTIOSERVUS SPP.	.5
37	ZAITZEVIA PARVUL	1.6
38	ATHERIX VARIEGAT	.2
39	CRYPTOCHIRONOMUS	.1
40	MICROTENDIPES SP	2.2
41	POLYPEDILUM SP.A	.1
42	CRICOTOPUS SP. B	.2
43	EUKIEFFERIELLA B	.1
44	EUKIEFFERIELLA E	.1
45	EUKIEFFERIELLA H	.2
46	ORTHOCLADIUS B	.3
47	ORTHOCLADIUS OBU	1.1
48	SYNORTHOCLADIUS	.1
49	THIENEMANIELL SP	.1
50	ABLABESMYIA SP.	.3
51	CHELIFERA SP.	.1
52	WIEDEMANNIA SP.	.1
53	SIMULIUM SP.	.1
54	ANTOCHA SP.	.1
55	HEXATOMA SP.	.4

DIVERSITY INDEX 3.13

Table 17. Continued

SAMPLE: F84-08
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.4
2	BAETIS TRICAUDAT	.3
3	DRUNELLA GRANDIS	.2
4	EPHEMERELLA INFR	35.9
5	RHITHROGENA HAGE	.5
6	AMELETUS VELOX	.1
7	TRICORYTHODES MI	.1
8	CAPNIA-GROUP SP.	.6
9	ALLOPERLA-GROUP	.1
10	ZAPADA CINCTIPES	.3
11	HESPEROPERLA PAC	.2
12	ISOGENOIDES ELON	.2
13	ISOPERLA FULVA	.2
14	PTERONARCELLA BA	.3
15	PTERONARCYS CALI	.3
16	ARCTOPSYCHE GRAN	.6
17	CHEUMATOPSYCHE	7.2
18	HYDROPSYCHE OCCI	15.4
19	SYMPHITOPS COCKE	6.2
20	HYDROPTILA SP.	4.6
21	LEPIDOSTOMA SP.A	.2
22	OECETIS SP. A	.5
23	PSYCHOMYIA FLAVI	1.9
24	PARARGYRACTIS SP	.9
25	OPTIOSERVUS SPP.	.9
26	ZAITZEVIA PARVUL	.3
27	CHIRONOMUS SP.	1.1
28	DICROTENDIP SP.C	.1
29	MICROTENDIPES SP	5.3
30	PHAENOPSECTRA SP	.9
31	POLYPEDILUM SP.A	1
32	TANYTARSUS SP. B	5.1
33	DIAMESA SP. B	.3
34	POTTHASTIA SP.	.1
35	CRICOTOPUS SP. B	3.1
36	EUKIEFFERIELLA B	.9
37	EUKIEFFERIELLA E	.2
38	EUKIEFFERIELLA H	.7
39	ORTHOCLADIUS B	.5
40	ORTHOCLADIUS NIG	.1
41	ORTHOCLADIUS OBU	1.2
42	ABLABESMYIA SP.	.2
43	WIEDEMANNIA SP.	.2
44	EPHYDRIDAE	.1
45	OLIGOCHAETA	.5
46	OLIGOCHAETA LUMB	.[illegible]

DIVERSITY INDEX 3.[illegible]

Table 17. Continued

SAMPLE: F84-09

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.7
2	BAETIS TRICAUDAT	.6
3	EPHEMERELLA INFR	35.5
4	HEPTAGENIA SOLIT	.7
5	RHITHROGENA HAGE	4.9
6	PARALEPTOPHL HEM	.6
7	AMELETUS VELOX	.5
8	CAPNIA-GROUP SP.	.5
9	CLAASSENI SABULO	.1
10	HESPEROPERLA PAC	.2
11	ISOGENOIDES ELON	.4
12	ISOPERLA FULVA	1.5
13	ISOPERLA QUINQUF	.1
14	SKWALA PARALLELA	.2
15	PTERONARCELLA BA	.1
16	PTERONARCYS CALI	.1
17	ARCTOPSYCHE GRAN	.2
18	CHEUMATOPSYCHE	14.6
19	HYDROPSYCHE OCCI	10.2
20	SYMPHITOPS COCKE	2.5
21	HYDROPTILA SP.	8.1
22	LEPIDOSTOMA SP.A	.1
23	OECETIS SP. A	[illegible]
24	PSYCHOMYIA FLAVI	3.2
25	PARARGYRACTIS SP	.1
26	OPTIOSERVUS SPP.	.3
27	ZAITZEVIA PARVUL	.8
28	MICROTENDIPES SP	2.2
29	PHAENOPSECTRA SP	1.1
30	TANYTARSUS SP. B	2.3
31	CRICOTOPUS SP. B	.5
32	EUKIEFFERIELLA B	.6
33	EUKIEFFERIELLA H	.1
34	ORTHOCLADIUS B	.3
35	ORTHOCLADIUS OBU	4.4
36	SYNORTHOCLADIUS	.1
37	CHELIFERA SP.	.1
38	WIEDEMANNIA SP.	.1
39	HEXATOMA SP.	.1
40	OLIGOCHAETA	.1

DIVERSITY INDEX 3.41

Table 17. Continued

SAMPLE: F84-10

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.8
2	BAETIS TRICAUDAT	1.9
3	CENTROPTILU SP.A	0
4	DRUNELLA GRANDIS	.2
5	EPHEMERELLA INFR	12.8
6	CINYGMULA SP.	0
7	HEPTAGENIA SOLIT	.5
8	RHITHROGENA HAGE	3.3
9	PARALEPTOPHL MEM	.7
10	AMELETUS VELOX	.3
11	CLAASSENI SABULO	1
12	HESPEROPERLA PAC	0
13	CULTUS PILATUS	0
14	ISOGENOIDES ELON	0
15	ISOPERLA FULVA	1.3
16	SKWALA PARALLELA	.2
17	PTERONARCELLA BA	.9
18	TAENIONEMA PACIF	.2
19	BRACHYCENTRUS OC	1.1
20	PROTOPTILA SP.	0
21	ARCTOPSYCHE GRAN	1.1
22	CHEUMATOPSYCHE	14.4
23	HYDROPSYCHE OCCI	16.8
24	SYMPHITOPS COCKE	4.6
25	SYMPHITOPS SLOSS	.2
26	HYDROPTILA SP.	13.7
27	LEUCOTRICHIA PIC	0
28	LEPIDOSTOMA SP.A	0
29	OECETIS SP. A	.1
30	PSYCHOMYIA FLAVI	.6
31	PARARGYRACTIS SP	1.1
32	OPTIOSERVUS SPP.	9
33	ZAITZEVIA PARVUL	2.9
34	ATHERIX VARIEGAT	.1
35	MICROPSECTR SP.A	.8
36	MICROTENDIPES SP	.1
37	POLYPEDILUM SP.A	.1
38	TANYTARSUS SP. B	.2
39	PAGASTIA SP.	0
40	CRICOTOPUS SP. B	.9
41	EUKIEFFERIELLA B	3.9
42	EUKIEFFERIELLA E	.1
43	EUKIEFFERIELLA H	.1
44	HETEROTRISSOCLAD	.1
45	ORTHOCLADIUS B	.1
46	ORTHOCLADIUS OBU	.3
47	THIENEMANIELL SP	.1
48	ABLABESMYIA SP.	0
49	CHELIFERA SP.	.2
50	WIEDEMANNIA SP.	.2
51	SIMULIUM SP.	1.4
52	ANTOCHA SP.	.6
53	OLIGOCHAETA LUMB	.3
54	HIRUDINEA	0

DIVERSITY INDEX 3.94

Table 17. Continued

SAMPLE: F84-11

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.7
2	BAETIS TRICAUDAT	.7
3	EPHEMERELLA INFR	31.4
4	HEPTAGENIA SOLIT	.2
5	RHITHROGENA HAGE	3.9
6	PARALEPTOPHL HEM	.4
7	AMELETUS VELOX	.6
8	ZAPADA CINCTIPES	0
9	CLAASSENI SABULO	.2
10	HESPEROPERLA PAC	0
11	ISOGENOIDES ELON	.4
12	ISOPERLA FULVA	1
13	ISOPERLA QUINQUE	.1
14	SKWALA PARALLELA	.1
15	PTERONARCELLA BA	.2
16	PTERONARCYS CALI	0
17	TAENIONEMA PACIF	0
18	ARCTOPSYCHE GRAN	.6
19	CHEUMATOPSYCHE	3.3
20	HYDROPSYCHE OCCI	17.1
21	SYMPHITOPS COCKE	.9
22	SYMPHITOPS SLOSS	.2
23	HYDROPTILA SP.	22.1
24	LEPIDOSTOMA SP.A	.2
25	PSYCHOMYIA FLAVI	.1
26	PARARGYRACTIS SP	0
27	OPTIOSERVUS SPP.	.7
28	ZAITZEVIA PARVUL	.9
29	ATHERIX VARIEGAT	1.1
30	MICROPSECTR SP.A	.5
31	MICROTENDIPES SP	3.7
32	POLYPEDILUM SP.A	.1
33	TANYTARSUS SP. B	.4
34	DIAMESA SP. B	0
35	PAGASTIA SP.	0
36	CRICOTOPUS SP. B	2.8
37	EUKIEFFERIELLA B	.6
38	EUKIEFFERIELLA E	.4
39	EUKIEFFERIELLA H	.1
40	ORTHOCLADIUS B	.4
41	ORTHOCLADIUS OBU	3.5
42	ABLABESMYIA SP.	0
43	WIEDEMANNIA SP.	.2
44	HEXATOMA SP.	.4
45	OLIGOCHAETA	.1

DIVERSITY INDEX 3.22

Table 17. Continued

SAMPLE: F84-13
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.2
2	BAETIS TRICAUDAT	.1
3	EPHEMERELLA INFR	9.2
4	HEPTAGENIA SOLIT	.2
5	RHITHROGENA HAGE	.7
6	STENONEMA SP.	0
7	PARALEPTOPHL MEM	.2
8	AMELETUS VELOX	.5
9	CAPNIA-GROUP SP.	.1
10	PROSTOIA BESAMET	0
11	CULTUS PILATUS	0
12	ISOGENOIDES ELON	.5
13	ISOPERLA FULVA	.2
14	SKWALA PARALLELA	.1
15	PTERONARCELLA BA	.1
16	ARCTOPSYCHE GRAN	.1
17	CHEUMATOPSYCHE	2.8
18	HYDROPSYCHE OCCI	2
19	SYMPHITOPS COCKE	.1
20	HYDROPTILA SP.	49.8
21	ZUMATRICHIA NOTO	0
22	OECETIS SP. A	.4
23	PSYCHOMYIA FLAVI	.2
24	PARARGYRACTIS SP	0
25	OPTIOSERVUS SPP.	.2
26	ZAITZEVIA PARVUL	.4
27	ATHERIX VARIEGAT	0
28	CRYPTOCHIRONOMUS	0
29	MICROPSECTR SP.A	.3
30	MICROTENDIPES SP	23.7
31	PHAENOPSECTRA SP	.5
32	TANYTARSUS SP. B	.5
33	DIAMESA SP. B	.6
34	DIAMESA SP. C	.1
35	CRICOTOPUS SP. B	1.5
36	EUKIEFFERIELLA B	.1
37	ORTHOCLADIUS B	.2
38	ORTHOCLADIUS OBU	2.4
39	THIENEMANIELL SP	0
40	ABLABESMYIA SP.	.1
41	CHELIFERA SP.	0
42	HEXATOMA SP.	.1
43	TIPULA SP.	0
44	OLIGOCHAETA	1.2
45	OLIGOCHAETA LUMB	0

DIVERSITY INDEX 2.49

Table 17. Continued

SAMPLE: F84-14
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.4
2	BAETIS TRICAUDAT	.3
3	CAENIS SIMULANS	.1
4	EPHEMERELLA INFR	19
5	HEPTAGENIA SOLIT	.7
6	RHITHROGENA HAGE	1
7	PARALEPTOPHL MEM	.5
8	AMELETUS VELOX	.1
9	CLAASSENI SABULO	.1
10	ISOGENOIDES ELON	.1
11	ISOPERLA FULVA	.6
12	SKWALA PARALLELA	.1
13	PTERONARCELLA BA	.1
14	TAENIONEMA PACIF	.1
15	ARCTOPSYCHE GRAN	.1
16	CHEUMATOPSYCHE	13.2
17	HYDROPSYCHE OCCI	12.2
18	SYMPHITOPS COCKE	.2
19	HYDROPTILA SP.	30.4
20	CERACLEA SP.	.1
21	OECETIS SP. A	.3
22	OPTIOSERVUS SPP.	.3
23	ZAITZEVIA PARVUL	[illegible]
24	ATHERIX VARIEGAT	.3
25	MICROPSECTR SP.A	.6
26	MICROTENDIPES SP	10.9
27	PARACLADOPE SP.A	.1
28	PHAENOPSECTRA SP	.1
29	TANYTARSUS SP. B	.2
30	STICTOCHIRONO SP	.1
31	CRICOTOPUS SP. B	1.2
32	EUKIEFFERIELLA B	.2
33	EUKIEFFERIELLA E	.1
34	EUKIEFFERIELLA H	.1
35	HETEROTRISSOCLAD	.1
36	ORTHOCLADIUS B	.2
37	ORTHOCLADIUS OBU	2.2
38	SYNORTHOCLADIUS	.1
39	THIENEMANIELL SP	.1
40	ABLABESMYIA SP.	.2
41	WIEDEMANNIA SP.	.1
42	SIMULIUM SP.	.1
43	HEXATOMA SP.	.1
44	HYALELLA AZTECA	.2
45	GYRAULUS SP.	.1
46	OLIGOCHAETA	3
47	OLIGOCHAETA LUMB	.1

DIVERSITY INDEX 3.09

Table 17. Continued

SAMPLE: F84-15

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.6
2	BAETIS TRICAUDAT	.4
3	EPHEMERELLA INFR	36.8
4	HEPTAGENIA SOLIT	.3
5	RHITHROGENA HAGE	4.7
6	PARALEPTOPHL MEM	.4
7	AMELETUS VELOX	.8
8	TRICORYTHODES MI	0
9	CAPNIA-GROUP SP.	.1
10	CLAASSENI SABULO	.4
11	CULTUS PILATUS	0
12	ISOGENOIDES ELON	.4
13	ISOPERLA FULVA	.9
14	ISOPERLA QUINQUE	0
15	SKWALA PARALLELA	.1
16	PTERONARCELLA BA	.2
17	TAENIONEMA PACIF	0
18	ARCTOPSYCHE GRAN	.1
19	CHEUMATOPSYCHE	5.5
20	HYDROPSYCHE OCCI	19.2
21	SYMPHITOPS COCKE	.1
22	HYDROPTILA SP.	17.9
23	OECETIS SP. A	.1
24	OPTIOSERVUS SPP.	.9
25	ZAITZEVIA PARVUL	.5
26	ATHERIX VARIEGAT	.1
27	CLADOTANYTA SP.A	0
28	MICROPSECTR SP.A	.2
29	MICROTENDIPES SP	4.6
30	POLYPEDILUM SP.A	.1
31	TANYTARSUS SP. B	.1
32	DIAMESA SP. B	.1
33	CRICOTOPUS SP. B	2
34	EUKIEFFERIELLA B	.2
35	EUKIEFFERIELLA E	.1
36	EUKIEFFERIELLA F	.1
37	EUKIEFFERIELLA H	.2
38	ORTHOCLADIUS B	.1
39	ORTHOCLADIUS OBU	1.2
40	PSECTROCLADIUS B	0
41	ABLABESMYIA SP.	0
42	WIEDEMANNIA SP.	.1
43	SIMULIUM SP.	.2
44	HEXATOMA SP.	.1
45	TIPULA SP.	0
46	OLIGOCHAETA	0

DIVERSITY INDEX 2.93

SAMPLE: F84-19
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.3
2	BAETIS TRICAUDAT	4.1
3	DRUNELLA GR INGE	.2
4	EPHEMERELLA INFR	34.8
5	CINYGMULA SP.	0
6	HEPTAGENIA SOLIT	1.4
7	RHITHROGENA HAGE	1.3
8	PARALEPTOPHL MEM	1.9
9	AMELETUS VELOX	.2
10	ISOGENOIDES ELON	.6
11	ISOPERLA FULVA	.6
12	SKWALA PARALLELA	.1
13	TAENIONEMA PACIF	0
14	BRACHYCENTRUS OC	.1
15	ARCTOPSYCHE GRAN	.2
16	CHEUMATOPSYCHE	11.3
17	HYDROPSYCHE OCCI	12.5
18	SYMPHITOPS COCKE	2.4
19	SYMPHITOPS SLOSS	.1
20	HYDROPTILA SP.	15.6
21	LEUCOTRICHIA PIC	.1
22	ZUMATRICHIA NOTO	0
23	OECETIS SP. A	.2
24	PSYCHOMYIA FLAVI	3.7
25	PARARGYRACTIS SP	0
26	OPTIOSERVUS SPP.	.5
27	ZAITZEVIA PARVUL	.5
28	MICROPSECTR SP.A	.1
29	MICROTENDIPES SP	3.3
30	POLYPEDILUM SP.A	.2
31	CRICOTOPUS SP. B	.6
32	EUKIEFFERIELLA B	.4
33	EUKIEFFERIELLA E	0
34	EUKIEFFERIELLA F	.2
35	EUKIEFFERIELLA H	.2
36	ORTHOCLADIUS B	.3
37	ORTHOCLADIUS OBU	1.2
38	SYNORTHOCLADIUS	0
39	OLIGOCHAETA LUMB	0

DIVERSITY INDEX 3.22

Table 17. Continued

SAMPLE: F84-21

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	0
2	BAETIS TRICAUDAT	.2
3	DRUNELLA DODDSI	0
4	DRUNELLA GR INGE	.2
5	EPHEMERELLA INFR	52
6	CINYGMULA SP.	.2
7	EPEORUS ALBERTAE	0
8	HEPTAGENIA SOLIT	.6
9	RHITHROGENA HAGE	.5
10	PARALEPTOPHL MEM	1.2
11	AMELETUS VELOX	.4
12	CAPNIA-GROUP SP.	.1
13	CLAASSENI SABULO	.4
14	HESPEROPERLA PAC	.1
15	ISOGENOIDES ELON	.4
16	ISOPERLA FULVA	1
17	SKWALA PARALLELA	0
18	PTERONARCYS CALI	.1
19	TAENIONEMA PACIF	.2
20	BRACHYCENTRUS OC	.3
21	ARCTOPSYCHE GRAN	.6
22	CHEUMATOPSYCHE	8.7
23	HYDROPSYCHE OCCI	6.2
24	SYMPHITOPS COCKE	2
25	SYMPHITOPS SLOSS	.2
26	HYDROPTILA SP.	13.5
27	LEPIDOSTOMA SP.A	.2
28	CERACLEA SP.	.5
29	OECETIS SP. A	.2
30	PSYCHOMYIA FLAVI	1.4
31	OPTIOSERVUS SPP.	.6
32	ZAITZEVIA PARVUL	1
33	MICROTENDIPES SP	5.6
34	PHAENOPSECTRA SP	0
35	POLYPEDILUM SP.A	0
36	CRICOTOPUS SP. B	0
37	EUKIEFFERIELLA E	0
38	EUKIEFFERIELLA F	0
39	ORTHOCLADIUS B	.2
40	ORTHOCLADIUS OBU	.5
41	ABLABESMYIA SP.	.1
42	ANTOCHA SP.	0
43	OLIGOCHAETA LUMB	.3
44	TURBELLARI	0

DIVERSITY INDEX 2.7

Table 17. Continued

SAMPLE: F84-23
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	1.8
2	BAETIS TRICAUDAT	.3
3	EPHEMERELLA INFR	.2
4	RHITHROGENA HAGE	.2
5	STENONEMA SP.	.3
6	AESHNA SP.	.1
7	CHEUMATOPSYCHE	.2
8	HYDROPTILA SP.	2.5
9	OXYETHIRA SP.	.5
10	CERACLEA SP.	.1
11	TRIAENODES SP.	.1
12	POLYCENTROPUS SP	.1
13	PARARGYRACTIS SP	.5
14	DUBIRAPHIA SP.	.4
15	OPTIOSERVUS SPP.	.1
16	ZAITZEVIA PARVUL	.2
17	GYRINUS SP.	.4
18	DICROTENDIP SP.A	1.1
19	MICROPSECTR SP.A	.2
20	TANYTARSUS SP. B	3
21	DIAMESA SP. B	.1
22	PAGASTIA SP.	1.9
23	POTTHASTIA SP.	.2
24	CORYNONEURA SP.	.4
25	CRICOTOPUS SP. B	6
26	EUKIEFFERIELLA F	1.9
27	ORTHOCLADIUS B	6.5
28	ORTHOCLADIUS OBU	4.3
29	PSECTROCLADIUS B	14.9
30	SYNORTHOCLADIUS	.3
31	ABLABESMYIA SP.	.1
32	WIEDEMANNIA SP.	.4
33	SIMULIUM SP.	.9
34	HYALELLA AZTECA	5.6
35	LEBERTIA SP.	.1
36	GYRAULUS SP.	8
37	LYMNAEA SP.	.9
38	PHYSA SP.	3.9
39	OLIGOCHAETA	5.5
40	OLIGOCHAETA LUMB	1.5
41	TURBELLARI	26.4
42	GLOSSIPHONIA SP	.2

DIVERSITY INDEX 3.82

SAMPLE: F84-24
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.6
2	BAETIS TRICAUDAT	.1
3	EPHEMERELLA INFR	.5
4	HEPTAGENIA SOLIT	.9
5	RHITHROGENA HAGE	1.6
6	STENONEMA SP.	10.9
7	AMELETUS VELOX	.1
8	OPHIOGOMPHUS SP.	.1
9	GLOSSOSOMA SP.	.1
10	CHEUMATOPSYCHE	7.1
11	HYDROPSYCHE OCCI	1
12	SYMPHITOPS COCKE	1.1
13	HYDROPTILA SP.	.2
14	CERACLEA SP.	2.1
15	OECETIS SP. A	.2
16	OPTIOSERVUS SPP.	.2
17	ZAITZEVIA PARVUL	1.2
18	LENZIELLA SP.	.1
19	MICROPSECTR SP.A	.2
20	MICROTENDIPES SP	6
21	TANYTARSUS SP. B	.1
22	DIAMESA SP. B	.4
23	PAGASTIA SP.	.2
24	CRICOTOPUS SP. B	15
25	EUKIEFFERIELLA F	1
26	EUKIEFFERIELLA H	.1
27	ORTHOCLADIUS B	2.9
28	ORTHOCLADIUS OBU	5.1
29	SYNORTHOCLADIUS	.1
30	WIEDEMANNIA SP.	.1
31	SIMULIUM SP.	19.8
32	LYMNAEA SP.	18.8
33	OLIGOCHAETA	.2
34	OLIGOCHAETA LUMB	.6
35	TURBELLARI	1.4

DIVERSITY INDEX 3.54

Table 17. Continued

SAMPLE: F84-25

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.1
2	EPHEMERELLA INFR	.5
3	HEPTAGENIA SOLIT	.5
4	RHITHROGENA HAGE	.1
5	STENONEMA SP.	36
6	OPHIOGOMPHUS SP.	.2
7	BRACHYCENTRUS OC	0
8	CHEUMATOPSYCHE	23.4
9	HYDROPSYCHE OCCI	.3
10	SYMPHITOPS COCKE	.6
11	HYDROPTILA SP.	8.4
12	CERACLEA SP.	4.2
13	OECETIS SP. A	.1
14	PSYCHOMYIA FLAVI	2.2
15	PARARGYRACTIS SP	.3
16	OPTIOSERVUS SPP.	.1
17	ZAITZEVIA PARVUL	.[illegible]
18	DICROTENDIP SP.A	.6
19	MICROTENDIPES SP	8.3
20	TANYTARSUS SP. B	.1
21	STENOCHIRONOM SP	.1
22	DIAMESA SP. B	0
23	CRICOTOPUS SP. B	1.4
24	EUKIEFFERIELLA B	.1
25	ORTHOCLADIUS B	.8
26	ORTHOCLADIUS OBU	3.9
27	SYNORTHOCLADIUS	.1
28	SIMULIUM SP.	1.5
29	SPERCHON SP.	0
30	LEBERTIA SP.	0
31	FERRISSIA SP.	.2
32	GYRAULUS SP.	2.1
33	LYMNAEA SP.	1.5
34	PHYSA SP.	.1
35	OLIGOCHAETA LUMB	.7
36	TURBELLARI	.2

DIVERSITY INDEX 3.06

SAMPLE: F84-27
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.4
2	HEPTAGENIA SOLIT	.4
3	STENONEMA SP.	4.9
4	CHEUMATOPSYCHE	25.4
5	HYDROPSYCHE SP.A	12.1
6	HYDROPSYCHE OCCI	2.2
7	SYMPHITOPS COCKE	2.7
8	HYDROPTILA SP.	3.1
9	ZUMATRICHIA NOTO	.4
10	CERACLEA SP.	25
11	PSYCHOMYIA FLAVI	4
12	PARARGYRACTIS SP	4.5
13	OPTIOSERVUS SPP.	.4
14	MICROTENDIPES SP	6.3
15	STENOCHIRONOM SP	.4
16	DIAMESA SP. B	.4
17	CRICOTOPUS SP. B	1.3
18	ORTHOCLADIUS B	.4
19	ORTHOCLADIUS OBU	2.2
20	WIEDEMANNIA SP.	.9
21	FERRISSIA SP.	.4
22	LYMNAEA SP.	.4
23	TURBELLARI	1.3

DIVERSITY INDEX 3.3

Table 17. Deep Water Monitoring Stations - Petite Ponar Grab Samples

SAMPLE: F84-03
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP.	43.2
2	PHAENOPSECTRA SP	2.5
3	PHAENOPSECT SP.B	2.5
4	POLYPEDILUM SP.D	6.2
5	TANYTARSUS SP. B	2.5
6	STICTOCHIRONO SP	2.5
7	EUKIEFFERIELLA I	1.2
8	OLIGOCHAETA	39.5

DIVERSITY INDEX 1.91

SAMPLE: F84-26
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CERACLEA SP.	.4
2	CRYPTOCHIRONOMUS	1
3	PHAENOPSECT SP.B	.8
4	POLYPEDILUM SP.D	3.5
5	PSEUDOCHIRONOMUS	.4
6	ORTHOCLADIUS OBU	.2
7	PROCLADIUS SP. A	5.6
8	OLIGOCHAETA	88.2

DIVERSITY INDEX .76

SAMPLE: F84-28
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP.	6
2	PROCLADIUS SP. A	6.3
3	OLIGOCHAETA	87.7

DIVERSITY INDEX .66

SAMPLE: F84-28B
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP.	5.4
2	PROCLADIUS SP. A	4.1
3	OLIGOCHAETA	90.4

DIVERSITY INDEX .55

Table 17. Continued

SAMPLE: F84-30
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	OPHIOGOMPHUS SP.	.3
2	NECTOPSYCHE SP.	.6
3	OECETIS SP. B	2.2
4	PALPOMY-GP SP. A	7.3
5	CRYPTOCHIRONOMUS	4.1
6	PARACLADOPE SP.B	3.5
7	PARACLADOPE SP.C	.3
8	PARALAUTERBORNIE	2.2
9	POLYPEDILUM SP.B	1.6
10	POLYPEDILUM SP.D	24.9
11	PSEUDOCHIRONOMUS	24.6
12	PROCLADIUS SP. A	3.2
13	ARRENURUS SP.	.3
14	PISIDIUM SP.	.3
15	OLIGOCHAETA	24.6

DIVERSITY INDEX 2.77

Table 17. Benthic Macroinvertebrate Sample Percentage Distribution and Diversity Data, Spring 1985

Shallow Water Monitoring Stations - Kick Samples

SAMPLE: 1-53C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	13.6
2	EPHEMERELLA INFR	35.4
3	RHITHROGENA HAGE	1.9
4	PARALEPTOPHL MEM	0
5	AMELETUS VELOX	0
6	CAPNIA-GROUP SP.	2.8
7	ALLOPERLA-GROUP	.2
8	PROSTOIA BESAMET	6.7
9	CULTUS PILATUS	.4
10	ISOGENOIDES ELON	.2
11	ISOPERLA FULVA	.6
12	ISOPERLA QUINQUE	.8
13	SKWALA PARALLELA	.1
14	PTERONARCELLA BA	.4
15	PTERONARCYS CALI	0
16	TAENIONEMA PACIF	.4
17	BRACHYCENTRUS AM	.4
18	ARCTOPSYCHE GRAN	.1
19	CHEUMATOPSYCHE	.6
20	HYDROPSYCHE OCCI	4
21	SYMPHITOPS COCKE	.4
22	SYMPHITOPS SLOSS	.3
23	HYDROPTILA SP.	.6
24	LEPIDOSTOMA SP.A	1.5
25	OECETIS SP. A	.1
26	OPTIOSERVUS SPP.	.6
27	ZAITZEVIA PARVUL	.3
28	ATHERIX VARIEGAT	.1
29	MICROPSECTR SP.A	.1
30	MICROTENDIPES SP	0
31	PARACLADOPE SP.B	.1
32	PHAENOPSECTRA SP	0
33	POLYPEDILUM SP.A	0
34	TANYTARSUS SP. B	.3
35	DIAMESA SP. B	.9
36	PAGASTIA SP.	.1
37	CRICOTOPUS SP. B	8.9
38	EUKIEFFERIELLA A	.6
39	EUKIEFFERIELLA B	4.3
40	EUKIEFFERIELLA E	.3
41	HETEROTRISSOCLAD	0
42	EUKIEFFERIELLA I	0
43	ORTHOCLADIUS (EU	1.3
44	ORTHOCLADIUS B	1.6
45	ORTHOCLADIUS MAL	.3
46	ORTHOCLADIUS OBU	6.8
47	THIENEMANIELL SP	0
48	TRISSOCLADIUS SP	.1
49	SIMULIUM SP.	.7
50	HEXATOMA SP.	.2
51	TIPULA SP.	0

DIVERSITY INDEX 3.55

SAMPLE: 2-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	4.7
2	DRUNELLA GRANDIS	.1
3	EPHEMERELLA INFR	5.5
4	EPEORUS ALBERTAE	.2
5	RHITHROGENA HAGE	10.5
6	PARALEPTOPHL MEM	.7
7	AMELETUS VELOX	.4
8	CAPNIA-GROUP SP.	1.1
9	ALLOPERLA-GROUP	3.4
10	PROSTOIA BESAMET	3.9
11	CALINEURIA CALIF	1.1
12	CLAASSENI SABULO	.7
13	HESPEROPERLA PAC	.1
14	CULTUS PILATUS	1.3
15	ISOGENOIDES ELON	.1
16	ISOPERLA FULVA	3.9
17	PTERONARCYS CALI	.5
18	TAENIONEMA PACIF	.1
19	ARCTOPSYCHE GRAN	.1
20	CHEUMATOPSYCHE	1.4
21	HYDROPSYCHE OCCI	.6
22	SYMPHITOPS COCKE	.2
23	SYMPHITOPS SLOSS	2
24	HYDROPTILA SP.	.7
25	LEPIDOSTOMA SP.A	.5
26	OECETIS SP. A	.1
27	PSYCHOMYIA FLAVI	.1
28	OREODYTES SCITIL	.1
29	OPTIOSERVUS SPP.	.4
30	ZAITZEVIA PARVUL	.1
31	MICROPSECTR SP.C	5.7
32	PHAENOPSECTRA SP	.1
33	DIAMESA SP. B	10
34	PAGASTIA SP.	.1
35	CRICOTOPUS SP. B	11.5
36	EUKIEFFERIELLA A	1.5
37	EUKIEFFERIELLA B	1.8
38	EUKIEFFERIELLA E	.2
39	ORTHOCLADIUS (EU	6.8
40	ORTHOCLADIUS B	.2
41	ORTHOCLADIUS MAL	13.6
42	ORTHOCLADIUS OBU	1.2
43	DOLICHOPODIDAE	.1
44	SIMULIUM SP.	2.5
45	ANTOCHA SP.	.1
46	HEXATOMA SP.	.2
47	CAUDATELLA HYSTR	.2

DIVERSITY INDEX 4.27

SAMPLE: 4-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	19.8
2	EPHEMERELLA INFR	1.2
3	RHITHROGENA HAGE	.8
4	PARALEPTOPHL MEM	.1
5	AMELETUS VELOX	.1
6	CAPNIA-GROUP SP.	13.2
7	ALLOPERLA-GROUP	.4
8	PROSTOIA BESAMET	.1
9	HESPEROPERLA PAC	.1
10	CULTUS PILATUS	.1
11	ISOGENOIDES ELON	.2
12	ISOPERLA FULVA	1
13	PTERONARCELLA BA	.4
14	PTERONARCYS CALI	.1
15	TAENIONEMA PACIF	2.4
16	BRACHYCENTRUS OC	.1
17	ARCTOPSYCHE GRAN	.1
18	CHEUMATOPSYCHE	5
19	HYDROPSYCHE OCCI	13.4
20	SYMPHITOPS COCKE	3.5
21	SYMPHITOPS SLOSS	.6
22	HYDROPTILA SP.	8.3
23	PSYCHOMYIA FLAVI	1.3
24	PARARGYRACTIS SP	.3
25	OREODYTES SCITIL	.1
26	OPTIOSERVUS SPP.	1.2
27	ZAITZEVIA PARVUL	.5
28	MICROTENDIPES SP	3.6
29	PARACLADOPE SP.C	.1
30	DIAMESA SP. B	1.6
31	PAGASTIA SP.	.1
32	CRICOTOPUS SP. B	5.2
33	EUKIEFFERIELLA A	.6
34	EUKIEFFERIELLA B	2
35	EUKIEFFERIELLA E	.1
36	EUKIEFFERIELLA F	.1
37	HETEROTRISSOCLAD	.1
38	ORTHOCLADIUS (EU	2.9
39	ORTHOCLADIUS MAL	.1
40	ORTHOCLADIUS OBU	3.3
41	TRISSOCLADIUS SP	.1
42	WIEDEMANNIA SP.	.1
43	SIMULIUM SP.	5.7

DIVERSITY INDEX 3.95

Table 17. Continued

SAMPLE: 5-53C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	26.5
2	EPHEMERELLA INFR	15.4
3	RHITHROGENA HAGE	7
4	PARALEPTOPHL MEM	.7
5	AMELETUS VELOX	.2
6	CAPNIA-GROUP SP.	10.9
7	ALLOPERLA-GROUP	.2
8	PROSTOIA BESAMET	.7
9	CULTUS PILATUS	.7
10	ISOGENOIDES ELON	.5
11	ISOPERLA FULVA	3.4
12	ISOPERLA QUINQUE	2.9
13	SKWALA PARALLELA	.1
14	PTERONARCELLA BA	.2
15	TAENIONEMA PACIF	7.6
16	CHEUMATOPSYCHE	.7
17	HYDROPSYCHE OCCI	3
18	SYMPHITOPS COCKE	.1
19	HYDROPTILA SP.	1.5
20	PSYCHOMYIA FLAVI	.4
21	OPTIOSERVUS SPP.	.2
22	ZAITZEVIA PARVUL	.2
23	TANYTARSUS SP. B	.1
24	DIAMESA SP. B	.5
25	PAGASTIA SP.	.1
26	CRICOTOPUS SP. B	4
27	EUKIEFFERIELLA A	.3
28	EUKIEFFERIELLA B	2.2
29	EUKIEFFERIELLA E	.2
30	HETEROTRISSOCLAD	.2
31	ORTHOCLADIUS (EU	1.8
32	ORTHOCLADIUS B	.6
33	ORTHOCLADIUS MAL	.2
34	ORTHOCLADIUS OBU	3.1
35	ABLABESMYIA SP.	.1
36	DOLICHOPODIDAE	.1
37	SIMULIUM SP.	3.6
38	OLIGOCHAETA	.2

DIVERSITY INDEX 3.69

SAMPLE: 6-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	4.1
2	EPHEMERELLA INFR	32.4
3	HEPTAGENIA SOLIT	.3
4	RHITHROGENA HAGE	2.5
5	PARALEPTOPHL MEM	.1
6	AMELETUS VELOX	1
7	CAPNIA-GROUP SP.	4.8
8	PROSTOIA BESAMET	.2
9	CALINEURIA CALIF	.1
10	CULTUS PILATUS	1.2
11	ISOGENOIDES ELON	.2
12	ISOPERLA FULVA	.8
13	ISOPERLA QUINQUE	1
14	SKWALA PARALLELA	.1
15	TAENIONEMA PACIF	.3
16	ARCTOPSYCHE GRAN	.1
17	CHEUMATOPSYCHE	9.9
18	HYDROPSYCHE OCCI	1.9
19	SYMPHITOPS COCKE	1.5
20	SYMPHITOPS SLOSS	.1
21	HYDROPTILA SP.	3.6
22	ZUMATRICHIA NOTO	.1
23	OECETIS SP. A	2.1
24	PSYCHOMYIA FLAVI	5.3
25	PARARGYRACTIS SP	1
26	OPTIOSERVUS SPP.	.4
27	ZAITZEVIA PARVUL	1.2
28	MICROTENDIPES SP	2.6
29	PHAENOPSECTRA SP	.1
30	POLYPEDILUM SP.A	.1
31	TANYTARSUS SP. B	1.8
32	DIAMESA SP. B	.1
33	PAGASTIA SP.	.8
34	CRICOTOPUS SP. B	6.3
35	EUKIEFFERIELLA A	.7
36	EUKIEFFERIELLA B	.5
37	EUKIEFFERIELLA E	.2
38	HETEROTRISSOCLAD	.1
39	ORTHOCLADIUS (EU	3.2
40	ORTHOCLADIUS B	1.8
41	ORTHOCLADIUS MAL	.4
42	ORTHOCLADIUS OBU	5.1
43	CHELIFERA SP.	.1
44	SIMULIUM SP.	.2

DIVERSITY INDEX 3.9

Table 17. Continued

SAMPLE: 8-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	3.6
2	EPHEMERELLA INFR	29
3	EPEORUS ALBERTAE	0
4	RHITHROGENA HAGE	1.4
5	PARALEPTOPHL MEM	0
6	AMELETUS VELOX	.3
7	CAPNIA-GROUP SP.	.1
8	PROSTOIA BESAMET	.5
9	CULTUS PILATUS	.8
10	ISOGENOIDES ELON	0
11	ISOPERLA FULVA	1.4
12	ISOPERLA QUINQUE	1
13	SKWALA PARALLELA	0
14	PTERONARCELLA BA	0
15	PTERONARCYS CALI	0
16	TAENIONEMA PACIF	.5
17	ARCTOPSYCHE GRAN	.3
18	CHEUMATOPSYCHE	1.5
19	HYDROPSYCHE OCCI	3.7
20	SYMPHITOPS COCKE	1.7
21	SYMPHITOPS SLOSS	0
22	HYDROPTILA SP.	.7
23	OECETIS SP. A	.1
24	PSYCHOMYIA FLAVI	.4
25	RHYACOPHILA BIFI	0
26	PARARGYRACTIS SP	.5
27	OPTIOSERVUS SPP.	.2
28	ZAITZEVIA PARVUL	.1
29	DICROTENDIP SP.C	0
30	MICROPSECTR SP.A	0
31	MICROTENDIPES SP	1.1
32	PHAENOPSECTRA SP	.1
33	POLYPEDILUM SP.A	.4
34	TANYTARSUS SP. B	.9
35	DIAMESA SP. B	1.7
36	PAGASTIA SP.	.2
37	BRILLIA SP.	0
38	CRICOTOPUS SP. B	19.5
39	EUKIEFFERIELLA A	2.9
40	EUKIEFFERIELLA B	4.3
41	EUKIEFFERIELLA E	.2
42	HETEROTRISSOCLAD	.1
43	ORTHOCLADIUS (EU	5
44	ORTHOCLADIUS B	4.4
45	ORTHOCLADIUS MAL	1.4
46	ORTHOCLADIUS OBU	3
47	ABLABESMYIA SP.	.2
48	CHELIFERA SP.	0
49	WIEDEMANNIA SP.	0
50	SIMULIUM SP.	.6
51	PACIFASTICUS SP.	0
52	OLIGOCHAETA	5.3
53	OLIGOCHAETA LUMB	.3

DIVERSITY INDEX 3.8

Table 17. Continued

SAMPLE: 9-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	11.8
2	EPHEMERELLA INFR	15
3	HEPTAGENIA SOLIT	.1
4	RHITHROGENA HAGE	2.9
5	PARALEPTOPHL MEM	.5
6	AMELETUS VELOX	.3
7	CAPNIA-GROUP SP.	10.2
8	ALLOPERLA-GROUP	0
9	PROSTOIA BESAMET	.7
10	CALINEURIA CALIF	0
11	CULTUS PILATUS	.2
12	ISOGENOIDES ELON	.6
13	ISOPERLA FULVA	1.7
14	ISOPERLA QUINQUE	.9
15	SKWALA PARALLELA	.1
16	PTERONARCELLA BA	.1
17	TAENIONEMA PACIF	1.4
18	CHEUMATOPSYCHE	1.4
19	HYDROPSYCHE OCCI	1.4
20	SYMPHITOPS COCKE	.2
21	HYDROPTILA SP.	6.2
22	OECETIS SP. A	.8
23	PSYCHOMYIA FLAVI	2
24	OREODYTES SCITIL	0
25	OPTIOSERVUS SPP.	0
26	ZAITZEVIA PARVUL	.2
27	MICROTENDIPES SP	.5
28	PARACLADOPE SP.B	0
29	TANYTARSUS SP. B	10.8
30	DIAMESA SP. B	2.2
31	CRICOTOPUS SP. B	15.2
32	EUKIEFFERIELLA A	.5
33	EUKIEFFERIELLA B	.9
34	EUKIEFFERIELLA E	0
35	HETEROTRISSOCLAD	0
36	ORTHOCLADIUS (EU	5.9
37	ORTHOCLADIUS B	.7
38	ORTHOCLADIUS MAL	.1
39	ORTHOCLADIUS OBU	3.8
40	ABLABESMYIA SP.	0
41	SIMULIUM SP.	.2
42	PHYSA SP.	0

DIVERSITY INDEX 3.91

Table 17. Continued

SAMPLE: 10-53C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	5.3
2	DRUNELLA GRANDIS	0
3	EPHEMERELLA INFR	26.5
4	EPEORUS ALBERTAE	.1
5	HEPTAGENIA SOLIT	0
6	RHITHROGENA HAGE	14.6
7	PARALEPTOPHL MEM	.8
8	CAPNIA-GROUP SP.	1.1
9	PROSTOIA BESAMET	.1
10	CLAASSENI SABULO	.4
11	HESPEROPERLA PAC	0
12	CULTUS PILATUS	.5
13	ISOGENOIDES ELON	.1
14	ISOPERLA FULVA	.7
15	ISOPERLA QUINQUE	.7
16	SKWALA PARALLELA	0
17	PTERONARCELLA BA	.4
18	TAENIONEMA PACIF	3.3
19	PROTOPTILA SP.	0
20	ARCTOPSYCHE GRAN	.2
21	CHEUMATOPSYCHE	2
22	HYDROPSYCHE OCCI	2.2
23	SYMPHITOPS COCKE	.8
24	HYDROPTILA SP.	2.8
25	ZUMATRICHIA NOTO	.1
26	LEPIDOSTOMA SP.A	.1
27	OECETIS SP. A	0
28	PSYCHOMYIA FLAVI	.1
29	PARARGYRACTIS SP	.3
30	OPTIOSERVUS SPP.	2.5
31	ZAITZEVIA PARVUL	.7
32	ATHERIX VARIEGAT	.1
33	MICROPSECTR SP.A	.2
34	POLYPEDILUM SP.A	0
35	TANYTARSUS SP. B	1.3
36	DIAMESA SP. B	.4
37	PAGASTIA SP.	.8
38	CRICOTOPUS SP. B	2.3
39	EUKIEFFERIELLA A	1
40	EUKIEFFERIELLA B	1.6
41	EUKIEFFERIELLA E	1.4
42	EUKIEFFERIELLA F	.2
43	ORTHOCLADIUS (EU	1.2
44	ORTHOCLADIUS B	.2
45	ORTHOCLADIUS MAL	2.2
46	ORTHOCLADIUS OBU	1.3
47	SYNORTHOCLADIUS	0
48	THIENEMANIELL SP	0
49	TRISSOCLADIUS SP	.1
50	ABLABESMYIA SP.	0
51	DOLICHOPODIDAE	.1
52	CHELIFERA SP.	0
53	WIEDEMANNIA SP.	.3
54	SIMULIUM SP.	18.1
55	ANTOCHA SP.	.5
56	OLIGOCHAETA LUMB	0
57	TURBELLARI	0
58	CAUDATELLA HYSTR	0

DIVERSITY INDEX 3.8

SAMPLE: 11-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	17.5
2	EPHEMERELLA INFR	14.1
3	HEPTAGENIA SOLIT	.1
4	RHITHROGENA HAGE	2.6
5	PARALEPTOPHL MEM	.3
6	CAPNIA-GROUP SP.	.5
7	ALLOPERLA-GROUP	.1
8	PROSTOIA BESAMET	.1
9	CULTUS PILATUS	.4
10	ISOGENOIDES ELON	.2
11	ISOPERLA FULVA	1.6
12	ISOPERLA QUINQUE	.8
13	PTERONARCELLA BA	.3
14	TAENIONEMA PACIF	7
15	CHEUMATOPSYCHE	.4
16	HYDROPSYCHE OCCI	1
17	HYDROPTILA SP.	1.9
18	OPTIOSERVUS SPP.	.1
19	PARACLADOPE SP.B	.1
20	PHAENOPSECTRA SP	.1
21	TANYTARSUS SP. B	.4
22	DIAMESA SP. B	.6
23	PAGASTIA SP.	.2
24	BRILLIA SP.	.1
25	CRICOTOPUS SP. B	6.8
26	EUKIEFFERIELLA A	.3
27	EUKIEFFERIELLA B	1.6
28	EUKIEFFERIELLA E	.4
29	HETEROTRISSOCLAD	.1
30	ORTHOCLADIUS (EU	4.9
31	ORTHOCLADIUS B	7.6
32	ORTHOCLADIUS MAL	.3
33	ORTHOCLADIUS OBU	20
34	WIEDEMANNIA SP.	.1
35	SIMULIUM SP.	7.3

DIVERSITY INDEX 3.6

SAMPLE: 13-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	3.6
2	EPHEMERELLA INFR	21.4
3	HEPTAGENIA SOLIT	.1
4	RHITHROGENA HAGE	2.1
5	PARALEPTOPHL MEM	.4
6	AMELETUS VELOX	.1
7	CAPNIA-GROUP SP.	1.8
8	ALLOPERLA-GROUP	.1
9	CLAASSENI SABULO	.1
10	CULTUS PILATUS	1.3
11	ISOGENOIDES ELON	.6
12	ISOPERLA FULVA	1
13	ISOPERLA QUINQUE	.8
14	SKWALA PARALLELA	.1
15	PTERONARCELLA BA	.4
16	TAENIONEMA PACIF	1.3
17	BRACHYCENTRUS OC	.1
18	CHEUMATOPSYCHE	1.7
19	HYDROPSYCHE OCCI	1.8
20	SYMPHITOPS COCKE	.1
21	SYMPHITOPS SLOSS	.1
22	HYDROPTILA SP.	5.2
23	OECETIS SP. A	.2
24	PSYCHOMYIA FLAVI	.1
25	OREODYTES SCITIL	.1
26	OPTIOSERVUS SPP.	.2
27	ZAITZEVIA PARVUL	.5
28	CRYPTOCHIRONOMUS	.1
29	MICROTENDIPES SP	2.8
30	PARACLADOPE SP.B	.7
31	PHAENOPSECTRA SP	1.3
32	TANYTARSUS SP. B	1.7
33	DIAMESA SP. B	1.6
34	PAGASTIA SP.	.7
35	CRICOTOPUS SP. B	6.9
36	EUKIEFFERIELLA A	.7
37	EUKIEFFERIELLA B	1.6
38	EUKIEFFERIELLA E	.4
39	HETEROTRISSOCLAD	.1
40	ORTHOCLADIUS (EU	3.2
41	ORTHOCLADIUS B	1.3
42	ORTHOCLADIUS MAL	1.2
43	ORTHOCLADIUS OBU	28.9
44	ABLABESMYIA SP.	.3
45	WIEDEMANNIA SP.	.1
46	SIMULIUM SP.	.4
47	HEXATOMA SP.	.4
48	OLIGOCHAETA	.6

DIVERSITY INDEX 3.81

SAMPLE: 14-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	6
2	CAENIS SIMULANS	.4
3	EPHEMERELLA INFR	12.7
4	RHITHROGENA HAGE	2.6
5	PARALEPTOPHL MEM	1.1
6	AMELETUS VELOX	.2
7	CAPNIA-GROUP SP.	5.8
8	ALLOPERLA-GROUP	.2
9	HESPEROPERLA PAC	.2
10	CULTUS PILATUS	.7
11	ISOGENOIDES ELON	1.1
12	ISOPERLA FULVA	1.3
13	ISOPERLA QUINQUE	.4
14	SKWALA PARALLELA	.6
15	TAENIONEMA PACIF	1.7
16	CHEUMATOPSYCHE	.2
17	HYDROPSYCHE OCCI	.9
18	HYDROPTILA SP.	6.5
19	OECETIS SP. A	.4
20	PSYCHOMYIA FLAVI	.2
21	OREODYTES SCITIL	.2
22	OPTIOSERVUS SPP.	.2
23	ZAITZEVIA PARVUL	.2
24	MICROTENDIPES SP	2.8
25	PARACLADOPE SP.B	.4
26	PARATANYTARSUS	.4
27	PHAENOPSECTRA SP	.4
28	TANYTARSUS SP. B	1.1
29	DIAMESA SP. B	1.9
30	CRICOTOPUS SP. B	6
31	EUKIEFFERIELLA A	.4
32	EUKIEFFERIELLA B	.6
33	EUKIEFFERIELLA E	.4
34	HETEROTRISSOCLAD	.6
35	ORTHOCLADIUS (EU	1.9
36	ORTHOCLADIUS B	2
37	ORTHOCLADIUS MAL	.7
38	ORTHOCLADIUS OBU	35.4
39	WIEDEMANNIA SP.	.4
40	SIMULIUM SP.	.9
41	OLIGOCHAETA	.4

DIVERSITY INDEX 3.69

SAMPLE: 15-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	5.5
2	EPHEMERELLA INFR	10.4
3	RHITHROGENA HAGE	5.9
4	PARALEPTOPHL MEM	1.3
5	AMELETUS VELOX	.3
6	CAPNIA-GROUP SP.	6.2
7	ALLOPERLA-GROUP	.1
8	CLAASSENI SABULO	.1
9	CULTUS PILATUS	1.1
10	ISOGENOIDES ELON	.6
11	ISOPERLA FULVA	.8
12	ISOPERLA QUINQUE	.6
13	SKWALA PARALLELA	.2
14	PTERONARCELLA BA	.1
15	TAENIONEMA PACIF	.8
16	CHEUMATOPSYCHE	.7
17	HYDROPSYCHE OCCI	.5
18	HYDROPTILA SP.	10.3
19	OECETIS SP. A	.2
20	OPTIOSERVUS SPP.	.1
21	ZAITZEVIA PARVUL	.2
22	PARACLADOPE SP.B	.5
23	PHAENOPSECTRA SP	.6
24	TANYTARSUS SP. B	1.9
25	DIAMESA SP. B	3.6
26	PAGASTIA SP.	.1
27	CRICOTOPUS SP. B	7.2
28	EUKIEFFERIELLA A	.1
29	EUKIEFFERIELLA B	.2
30	EUKIEFFERIELLA E	.1
31	HETEROTRISSOCLAD	.1
32	ORTHOCLADIUS (EU	4.3
33	ORTHOCLADIUS B	.8
34	ORTHOCLADIUS OBU	34
35	ABLABESMYIA SP.	.1
36	SIMULIUM SP.	.1
37	HEXATOMA SP.	.1
38	OLIGOCHAETA	.2

DIVERSITY INDEX 3.48

SAMPLE: 19-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	20.7
2	EPHEMERELLA INFR	17.7
3	HEPTAGENIA SOLIT	.4
4	RHITHROGENA HAGE	1.6
5	PARALEPTOPHL MEM	1.7
6	AMELETUS VELOX	.2
7	CAPNIA-GROUP SP.	2.1
8	PROSTOIA BESAMET	.8
9	CULTUS PILATUS	1.1
10	ISOGENOIDES ELON	.1
11	ISOPERLA FULVA	.8
12	ISOPERLA QUINQUE	1
13	TAENIONEMA PACIF	.6
14	CHEUMATOPSYCHE	.5
15	HYDROPSYCHE OCCI	.7
16	SYMPHITOPS COCKE	.3
17	HYDROPTILA SP.	6.4
18	CERACLEA SP.	.1
19	PSYCHOMYIA FLAVI	1.1
20	ZAITZEVIA PARVUL	.1
21	POLYPEDILUM SP.A	.1
22	TANYTARSUS SP. B	.1
23	DIAMESA SP. B	8.7
24	CRICOTOPUS SP. B	11
25	EUKIEFFERIELLA A	.4
26	EUKIEFFERIELLA B	3.6
27	EUKIEFFERIELLA E	.2
28	ORTHOCLADIUS (EU	8.7
29	ORTHOCLADIUS B	.1
30	ORTHOCLADIUS MAL	3.4
31	ORTHOCLADIUS OBU	5
32	ABLABESMYIA SP.	.1
33	SIMULIUM SP.	.3

DIVERSITY INDEX 3.69

SAMPLE: 21-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	3.4
2	DRUNELLA GRANDIS	.5
3	EPHEMERELLA INFR	64.1
4	HEPTAGENIA SOLIT	.1
5	RHITHROGENA HAGE	.9
6	PARALEPTOPHL MEM	.4
7	AMELETUS VELOX	.1
8	PROSTOIA BESAMET	.2
9	CLAASSENI SABULO	.3
10	HESPEROPERLA PAC	.1
11	CULTUS PILATUS	.2
12	ISOGENOIDES ELON	.3
13	ISOPERLA FULVA	.5
14	ISOPERLA QUINQUE	.1
15	SKWALA PARALLELA	.1
16	PTERONARCYS CALI	.2
17	TAENIONEMA PACIF	.5
18	BRACHYCENTRUS AM	.1
19	ARCTOPSYCHE GRAN	.4
20	CHEUMATOPSYCHE	2.7
21	HYDROPSYCHE OCCI	1.2
22	SYMPHITOPS COCKE	.7
23	SYMPHITOPS SLOSS	.2
24	HYDROPTILA SP.	8.3
25	CERACLEA SP.	.2
26	PSYCHOMYIA FLAVI	1
27	OPTIOSERVUS SPP.	.2
28	ZAITZEVIA PARVUL	.7
29	MICROTENDIPES SP	1.3
30	PHAENOPSECTRA SP	.1
31	PHAENOPSECT SP.B	.1
32	TANYTARSUS SP. B	.1
33	DIAMESA SP. B	.1
34	PAGASTIA SP.	.9
35	CRICOTOPUS SP. B	2
36	CRICOTOPUS SP. C	.1
37	EUKIEFFERIELLA B	.2
38	EUKIEFFERIELLA E	.1
39	ORTHOCLADIUS (EU	2.4
40	ORTHOCLADIUS B	.1
41	ORTHOCLADIUS MAL	2
42	ORTHOCLADIUS OBU	1.9
43	TRISSOCLADIUS SP	1
44	SIMULIUM SP.	.1
45	OLIGOCHAETA	.1
46	OLIGOCHAETA LUMB	2
47	TURBELLARI	.3

DIVERSITY INDEX 2.48

SAMPLE: 23-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	1.8
2	CAENIS SIMULANS	1.4
3	EPHEMERELLA INFR	.4
4	RHITHROGENA HAGE	.8
5	STENONEMA SP.	.3
6	CAPNIA-GROUP SP.	.1
7	TAENIONEMA PACIF	.9
8	AESHNA SP.	.4
9	HYDROPTILA SP.	1
10	TRIAENODES SP.	.1
11	POLYCENTROPUS SP	.3
12	DUBIRAPHIA SP.	.3
13	MICROPSECTR SP.A	.5
14	MICROPSECTR SP.C	.1
15	PHAENOPSECT SP.B	.3
16	TANYTARSUS SP. B	.1
17	DIAMESA SP. B	1.2
18	PAGASTIA SP.	1.4
19	POTTHASTIA SP.	.1
20	CORYNONEURA SP.	.1
21	CRICOTOPUS SP. B	3.5
22	ORTHOCLADIUS (EU	2.5
23	ORTHOCLADIUS B	.1
24	ORTHOCLADIUS NIG	2.6
25	ORTHOCLADIUS OBU	17.8
26	SYNORTHOCLADIUS	2.1
27	TRISSOCLADIUS SP	2.3
28	SIMULIUM SP.	2.5
29	HYALELLA AZTECA	25.6
30	GYRAULUS SP.	1.7
31	PHYSA SP.	.4
32	OLIGOCHAETA	.3
33	TURBELLARI	.4
34	MYSTACIDES SP.	.1
35	ORTHOCLADIUS G	26.4

DIVERSITY INDEX 3.28

Table 17. Continued

SAMPLE: 24-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	1.5
2	EPHEMERELLA INFR	.8
3	HEPTAGENIA SOLIT	.1
4	RHITHROGENA HAGE	.7
5	STENONEMA SP.	3.7
6	PARALEPTOPHL MEM	.1
7	PROSTOIA BESAMET	.1
8	ISOGENOIDES ELON	.4
9	TAENIONEMA PACIF	.3
10	CHEUMATOPSYCHE	3.4
11	HYDROPSYCHE OCCI	.1
12	SYMPHITOPS COCKE	.6
13	HYDROPTILA SP.	.4
14	CERACLEA SP.	.2
15	PSYCHOMYIA FLAVI	.1
16	ZAITZEVIA PARVUL	.6
17	MICROPSECTR SP.A	.9
18	MICROTENDIPES SP	.6
19	PHAENOPSECTRA SP	0
20	POLYPEDILUM SP.A	0
21	DIAMESA SP. B	3.6
22	PAGASTIA SP.	.2
23	CRICOTOPUS SP. B	24.3
24	EUKIEFFERIELLA A	0
25	EUKIEFFERIELLA B	1.6
26	EUKIEFFERIELLA E	.4
27	ORTHOCLADIUS (EU	9
28	ORTHOCLADIUS B	.3
29	ORTHOCLADIUS MAL	2.5
30	ORTHOCLADIUS OBU	33.8
31	SYNORTHOCLADIUS	.9
32	TRISSOCLADIUS SP	2.6
33	ABLABESMYIA SP.	.1
34	SIMULIUM SP.	4.6
35	FERRISSIA SP.	.3
36	LYMNAEA SP.	.5
37	OLIGOCHAETA LUMB	0
38	CAUDATELLA HYSTR	0

DIVERSITY INDEX 3.24

SAMPLE: 25-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	RHITHROGENA HAGE	.1
2	STENONEMA SP.	2.2
3	CHEUMATOPSYCHE	1.2
4	HYDROPSYCHE OCCI	.2
5	HYDROPTILA SP.	1.4
6	CERACLEA SP.	.3
7	PSYCHOMYIA FLAVI	.4
8	DICROTENDIP SP.A	.9
9	MICROPSECTR SP.A	4.1
10	MICROTENDIPES SP	1.2
11	PHAENOPSECTRA SP	.1
12	DIAMESA SP. B	.9
13	PAGASTIA SP.	.3
14	CRICOTOPUS SP. B	26.5
15	EUKIEFFERIELLA A	.1
16	EUKIEFFERIELLA B	.1
17	EUKIEFFERIELLA E	.1
18	HETEROTRISSOCLAD	.1
19	ORTHOCLADIUS (EU	3.1
20	ORTHOCLADIUS OBU	53.5
21	SYNORTHOCLADIUS	.2
22	TRISSOCLADIUS SP	1.8
23	ABLABESMYIA SP.	.1
24	WIEDEMANNIA SP.	.1
25	SIMULIUM SP.	.3
26	GYRAULUS SP.	.5
27	LYMNAEA SP.	.2
28	OLIGOCHAETA	.1
29	OLIGOCHAETA LUMB	.2

DIVERSITY INDEX 2.21

SAMPLE: 27-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS TRICAUDAT	.2
2	EPHEMERELLA INFR	.2
3	HEPTAGENIA SOLIT	2.8
4	RHITHROGENA HAGE	.1
5	STENONEMA SP.	21.3
6	PROSTOIA BESAMET	.1
7	PTERONARCYS CALI	.1
8	TAENIONEMA PACIF	.3
9	OPHIOGOMPHUS SP.	.7
10	CHEUMATOPSYCHE	3.5
11	HYDROPSYCHE SP.A	.9
12	HYDROPSYCHE OCCI	.3
13	SYMPHITOPS COCKE	.5
14	HYDROPTILA SP.	3.7
15	CERACLEA SP.	1.2
16	POLYCENTROPUS SP	.1
17	PSYCHOMYIA FLAVI	.8
18	PARARGYRACTIS SP	.5
19	DUBIRAPHIA SP.	.1
20	ZAITZEVIA PARVUL	.1
21	DICROTENDIP SP.A	4.6
22	DICROTENDIP SP.C	.2
23	MICROPSECTR SP.A	.4
24	MICROPSECTR SP.C	.1
25	MICROTENDIPES SP	3.4
26	PARATANYTARSUS	.1
27	TANYTARSUS SP. B	3.8
28	XENOCHIRONOMUS	.1
29	DIAMESA SP. A	.1
30	DIAMESA SP. B	2.2
31	PAGASTIA SP.	1.7
32	CRICOTOPUS SP. B	11.5
33	EUKIEFFERIELLA A	.7
34	EUKIEFFERIELLA B	1
35	EUKIEFFERIELLA E	.3
36	EUKIEFFERIELLA F	.1
37	HETEROTRISSOCLAD	.1
38	ORTHOCLADIUS (EU	3.4
39	ORTHOCLADIUS B	.2
40	ORTHOCLADIUS MAL	.9
41	ORTHOCLADIUS OBU	16.9
42	TRISSOCLADIUS SP	1.9
43	ABLABESMYIA SP.	.1
44	WIEDEMANNIA SP.	.3
45	SIMULIUM SP.	8.3
46	PACIFASTICUS SP.	.2

DIVERSITY INDEX 3.94

SAMPLE: 31-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHEUMATOPSYCHE	2
2	HYDROPTILA SP.	21.6
3	DICROTENDIP SP.A	2
4	MICROTENDIPES SP	2
5	DIAMESA SP. B	2
6	CRICOTOPUS SP. B	5.9
7	EUKIEFFERIELLA B	9.8
8	EUKIEFFERIELLA E	2
9	ORTHOCLADIUS OBU	27.5
10	HYALELLA AZTECA	2
11	GYRAULUS SP.	21.6
12	LYMNAEA SP.	2

DIVERSITY INDEX 2.81

Table 17. Deep Water Monitoring Stations - Petite Ponar Grab Samples

SAMPLE: 3-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP. 64.9	
2	TANYTARSUS SP. C	2.7
3	DIAMESA SP. B	2.7
4	MONODIAMESA SP.	2.7
5	EUKIEFFERIELLA B	2.7
6	ORTHOCLADIUS E	2.7
7	ORTHOCLADIUS OBU	2.7
8	OLIGOCHAETA	18.9

DIVERSITY INDEX 1.7

SAMPLE: 26-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP. 2	
2	CRYPTOCHIRONOMUS	.9
3	PARALAUTERBORNIE	1.3
4	PHAENOPSECTRA SP	1.3
5	POLYPEDILUM SP.B	2
6	TANYTARSUS SP. C	5.5
7	DIAMESA SP. B	.2
8	ORTHOCLADIUS E	.4
9	ORTHOCLADIUS OBU	.9
10	TRISSOCLADIUS SP	.9
11	PROCLADIUS SP. A	27.1
12	OLIGOCHAETA	57.6

DIVERSITY INDEX 1.82

SAMPLE: 28A-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP. 14.1	
2	PROCLADIUS SP. A	51.3
3	OLIGOCHAETA	34.6

DIVERSITY INDEX 1.42

SAMPLE: 28B-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP. 77.1	
2	PROCLADIUS SP. A	10.8
3	OLIGOCHAETA	12

DIVERSITY INDEX 1

SAMPLE: 30-53C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	ORTHOCLADIUS OBU	100

DIVERSITY INDEX 0

Table 17. Benthic Macroinvertebrate Sample Percentage Distribution and Diversity Data, Summer 1985.

SAMPLE: I-57-C Shallow Water Monitoring Stations - Kick Samples

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.2
2	BAETIS INSIGNIFI	10.4
3	BAETIS TRICAUDAT	7.2
4	ATTENELLA MARGAR	3.6
5	DRUNELLA GRANDIS	1.3
6	SERRATELLA TIBIA	2.4
7	TIMPANOGA HECUBA	.1
8	EPEORUS ALBERTAE	.1
9	NIXE CRIDDLEI	.1
10	NIXE SIMPLICIOID	.4
11	RHITHROGENA HAGE	2.6
12	PARALEPTOPHL DEB	.2
13	TRICORYTHODES MI	1.5
14	ALLOPERLA-GROUP	.3
15	ZAPADA CINCTIPES	.1
16	CLAASSENI SABULO	.5
17	ISOGENOIDES ELON	.6
18	ISOPERLA QUINQUE	.1
19	SKWALA PARALLELA	.5
20	PTERONARCELLA BA	2.3
21	PTERONARCYS CALI	.2
22	BRACHYCENTRUS OC	.1
23	ARCTOPSYCHE GRAN	3.3
24	CHEUMATOPSYCHE	2.5
25	HYDROPSYCHE OCCI	18.3
26	SYMPHITOPS COCKE	13.2
27	HYDROPTILA SP.	.8
28	NEOTRICHIA SP.	.4
29	OECETIS SP. A	.1
30	OPTIOSERVUS SPP.	2.5
31	ZAITZEVIA PARVUL	4.3
32	ATHERIX VARIEGAT	1.7
33	MICROPSECTR SP.A	.2
34	MICROPSECTR SP.C	.8
35	MICROTENDIPES SP	.2
36	POLYPEDILUM SP.A	6.2
37	TANYTARSUS SP. C	1
38	PAGASTIA SP.	.2
39	EUKIEFFERIELLA A	.2
40	EUKIEFFERIELLA B	1.3
41	EUKIEFFERIELLA E	2.2
42	EUKIEFFERIELLA G	.2
43	HETEROTRISSOCLAD	.1
44	ORTHOCLADIUS B	.7
45	ORTHOCLADIUS MAL	.6
46	ORTHOCLADIUS NIG	.1
47	ORTHOCLADIUS OBU	.6
48	PSECTROCLADIUS B	.2
49	SYNORTHOCLADIUS	.1
50	ABLABESMYIA SP.	.2
51	CHELIFERA SP.	.2
52	SIMULIUM SP.	.8
53	PROTANYDERUS SP.	.1
54	ANTOCHA SP.	.1
55	HEXATOMA SP.	1.8
56	OLIGOCHAETA	.1

DIVERSITY INDEX 4.35

Table 17. Continued

SAMPLE: 2-57-C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	1.3
2	BAETIS INSIGNIFI	4
3	BAETIS TRICAUDAT	2.4
4	ATTENELLA MARGAR	.1
5	DRUNELLA DODDSI	.6
6	DRUNELLA GRANDIS	.4
7	EPHEMERELLA INFR	.1
8	SERRATELLA TIBIA	6.1
9	EPEORUS ALBERTAE	.8
10	NIXE CRIDDLEI	.1
11	RHITHROGENA HAGE	.6
12	ALLOPERLA-GROUP	.3
13	CALINEURIA CALIF	1.4
14	CLAASSENI SABULO	1.5
15	SKWALA PARALELA	.2
16	PTERONARCYS CALI	.5
17	ARCTOPSYCHE GRAN	1.2
18	CHEUMATOPSYCHE	4.9
19	HYDROPSYCHE OCCI	4.2
20	SYMPHITOPS COCKE	3.7
21	HYDROPTILA SP.	.1
22	LEUCOTRICHIA PIC	.2
23	NEOTRICHIA SP.	.3
24	LEPIDOSTOMA SP.A	.1
25	OECETIS SP. A	.1
26	DICOSMOECUS SP.	.3
27	WORMALDIA SP.	1.2
28	PSYCHOMYIA FLAVI	.1
29	RHYACOPHILA ANGE	.1
30	OPTIOSERVUS SPP.	4.1
31	ZAITZEVIA PARVUL	7.4
32	PALPOMY-GP SP. A	.1
33	MICROPSECTR SP.A	.1
34	MICROPSECTR SP.C	38.8
35	MICROTENDIPES SP	1.1
36	PHAENOPSECTRA SP	.1
37	POLYPEDILUM SP.A	2.3
38	TANYTARSUS SP. C	.7
39	EUKIEFFERIELLA A	.4
40	EUKIEFFERIELLA B	.3
41	EUKIEFFERIELLA E	.6
42	HETEROTRISSOCLAD	.1
43	ORTHOCLADIUS B	.1
44	ORTHOCLADIUS MAL	.4
45	ORTHOCLADIUS OBU	.3
46	THIENEMANIELL SP	.1
47	ABLABESMYIA SP.	.1
48	CHELIFERA SP.	.1
49	SIMULIUM SP.	.2
50	ANTOCHA SP.	.4
51	HEXATOMA SP.	1.7
52	PHYSA SP.	3.5
53	OLIGOCHAETA LUMB	.5
54	STELENMIS SP.	.1

DIVERSITY INDEX 3.76

SAMPLE: 4-57-C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.6
2	BAETIS INSIGNIFI	3.6
3	BAETIS TRICAUDAT	11.3
4	ATTENELLA MARGAR	.6
5	DRUNELLA DODDSI	.5
6	DRUNELLA GRANDIS	.3
7	SERRATELLA TIBIA	4.5
8	TIMPANOGA HECUBA	.1
9	EPEORUS ALBERTAE	.6
10	NIXE CRIDDLEI	.1
11	RHITHROGENA HAGE	.5
12	TRICORYTHODES MI	.3
13	CLAASSENI SABULO	.4
14	HESPEROPERLA PAC	.4
15	ISOGENOIDES ELON	.3
16	SKWALA PARALLELA	.2
17	PTERONARCELLA BA	.7
18	PTERONARCYS CALI	1.4
19	BRACHYCENTRUS OC	.1
20	ARCTOPSYCHE GRAN	.9
21	CHEUMATOPSYCHE	14.5
22	HYDROPSYCHE OCCI	4.5
23	SYMPHITOPS COCKE	16.8
24	SYMPHITOPS SLOSS	.1
25	HYDROPTILA SP.	3.8
26	NEOTRICHIA SP.	.3
27	WORMALDIA SP.	.9
28	PSYCHOMYIA FLAVI	1.8
29	PARARGYRACTIS SP	.2
30	OPTIOSERVUS SPP.	2.1
31	ZAITZEVIA PARVUL	4.1
32	CRYPTOCHIRONOMUS	.1
33	MICROPSECTR SP.A	.2
34	MICROPSECTR SP.C	3.5
35	MICROTENDIPES SP	.3
36	POLYPEDILUM SP.A	7.4
37	TANYTARSUS SP. C	.2
38	PAGASTIA SP.	.3
39	CRICOTOPUS SP. B	.1
40	EUKIEFFERIELLA A	.1
41	EUKIEFFERIELLA B	4.4
42	EUKIEFFERIELLA E	.3
43	EUKIEFFERIELLA G	.2
44	ORTHOCLADIUS B	1.8
45	ORTHOCLADIUS MAL	2.2
46	ORTHOCLADIUS NIG	.1
47	ORTHOCLADIUS OBU	.7
48	SIMULIUM SP.	.6
49	ANTOCHA SP.	.9
50	OLIGOCHAETA	.1
51	TURBELLARI	.2

DIVERSITY INDEX 4.27

Table 17. Continued

SAMPLE 5-57-C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.3
2	BAETIS INSIGNIFI	9.8
3	BAETIS TRICAUDAT	8
4	DRUNELLA GRANDIS	.2
5	EPHEMERELLA INFR	.1
6	SERRATELLA TIBIA	2.7
7	TIMPANOGA HECUBA	.1
8	EPEORUS ALBERTAE	.3
9	HEPTAGENIA SOLIT	.1
10	RHITHROGENA HAGE	.5
11	TRICORYTHODES MI	.3
12	CLAASSENI SABULO	.4
13	HESPEROPERLA PAC	.1
14	ISOGENOIDES ELON	.2
15	SKWALA PARALLELA	.5
16	PTERONARCYS CALI	.1
17	RHAGOVELIA SP.	.2
18	ARCTOPSYCHE GRAN	.7
19	CHEUMATOPSYCHE	22.5
20	HYDROPSYCHE OCCI	6.5
21	SYMPHITOPS COCKE	27.3
22	HYDROPTILA SP.	.1
23	WORMALDIA SP.	.1
24	PSYCHOMYIA FLAVI	.7
25	PARARGYRACTIS SP	.1
26	OPTIOSERVUS SPP.	1
27	ZAITZEVIA PARVUL	4.1
28	MICROPSECTR SP.A	.1
29	MICROPSECTR SP.C	2.4
30	POLYPEDILUM SP.A	2.2
31	CRICOTOPUS SP. B	.1
32	EUKIEFFERIELLA B	1.9
33	EUKIEFFERIELLA E	.4
34	ORTHOCLADIUS B	1
35	ORTHOCLADIUS OBU	.1
36	CHELIFERA SP.	.1
37	SIMULIUM SP.	4.1
38	HEXATOMA SP.	.5

DIVERSITY INDEX 3.41

SAMPLE: 6-57-C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.8
2	BAETIS INSIGNIFI	15.9
3	BAETIS TRICAUDAT	5.8
4	CENTROPTILU SP.A	.7
5	ATTENELLA MARGAR	1.1
6	EPHEMERELLA INFR	.3
7	SERRATELLA TIBIA	3.4
8	TIMPANOGA HECUBA	.3
9	ELEORUS ALBERTAE	.7
10	HEPTAGENIA SOLIT	.9
11	NIXE CRIDDLEI	.3
12	NIXE SIMPLICIOID	.9
13	RHITHROGENA HAGE	.5
14	PARALEPTOPHL BIC	.5
15	PARALEPTOPHL DEB	.3
16	TRICORYTHODES MI	3.7
17	CLAASSENI SABULO	.1
18	HESPEROPERLA PAC	.1
19	ISOGENOIDES ELON	.5
20	SKWALA PARALLELA	.7
21	PTERONARCELLA BA	.1
22	PTERONARCYS CALI	.1
23	BRACHYCENTRUS OC	.1
24	PROTOPTILA SP.	.1
25	ARCTOPSYCHE GRAN	.7
26	CHEUMATOPSYCHE	22.5
27	HYDROPSYCHE OCCI	3.9
28	SYMPHITOPS COCKE	16.5
29	HYDROPTILA SP.	.6
30	ZUMATRICHIA NOTO	.1
31	OECETIS SP. A	.3
32	PSYCHOMYIA FLAVI	2
33	PARARGYRACTIS SP	.1
34	NARPUS CONCOLOR	.1
35	OPTIOSERVUS SPP.	.5
36	ZAITZEVIA PARVUL	2.3
37	ATHERIX VARIEGAT	.1
38	MICROPSECTR SP.A	.3
39	MICROPSECTR SP.C	1
40	MICROTENDIPES SP	.4
41	PHAENOPSECTRA SP	.2
42	POLYPEDILUM SP.A	4.5
43	TANYTARSUS SP. C	.3
44	PAGASTIA SP.	.1
45	CORYNONEURA SP.	.1
46	EUKIEFFERIELLA A	.1
47	EUKIEFFERIELLA B	.3
48	EUKIEFFERIELLA E	1.2
49	ORTHOCLADIUS B	1.1
50	ORTHOCLADIUS MAL	.1
51	ORTHOCLADIUS OBU	.7

Table 17. Continued

52	PSECTROCLADIUS B	.3
53	SYNORTHOCLADIUS	.4
54	THIENEMANIELL SP	.1
55	ABLABESMYIA SP.	.1
56	CHELIFERA SP.	.1
57	SIMULIUM SP.	.3
58	PROTANYDERUS SP.	.1
59	ANTOCHA SP.	.2
60	HEXATOMA SP.	.4
61	PACIFASTICUS SP.	.1

DIVERSITY INDEX 4.01

Table 17. Continued

SAMPLE: 8-57-C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	1.9
2	BAETIS INSIGNIFI	5.7
3	BAETIS TRICAUDAT	6.3
4	CENTROPTILU SP.A	.3
5	ATTENELLA MARGAR	.1
6	DRUNELLA DODDSI	.1
7	DRUNELLA GRANDIS	.1
8	EPHEMERELLA INFR	.1
9	SERRATELLA TIBIA	.6
10	TIMPANOGA HECUBA	.3
11	EPEORUS ALBERTAE	.2
12	HEPTAGENIA SOLIT	.1
13	NIXE CRIDDLEI	.1
14	NIXE SIMPLICIOID	.6
15	PARALEPTOPHL BIC	.2
16	PARALEPTOPHL DEB	.2
17	TRICORYTHODES MI	3.1
18	MALENKA SP.	.1
19	CLAASSENI SABULO	.1
20	HESPEROPERLA PAC	.2
21	ISOGENOIDES ELON	.6
22	SKWALA PARALLELA	.6
23	PTERONARCELLA BA	.1
24	PTERONARCYS CALI	.2
25	BRACHYCENTRUS OC	.2
26	ARCTOPSYCHE GRAN	2.2
27	CHEUMATOPSYCHE	23.4
28	HYDROPSYCHE OCCI	5
29	SYMPHITOPS COCKE	21
30	HYDROPTILA SP.	1
31	ZUMATRICHIA NOTO	.1
32	WORMALDIA SP.	.2
33	PSYCHOMYIA FLAVI	.9
34	PARARGYRACTIS SP	1.7
35	OPTIOSERVUS SPP.	.8
36	ZAITZEVIA PARVUL	1.6
37	CHIRONOMUS SP.	3.1
38	MICROPSECTR SP.C	.2
39	PHAENOPSECTRA SP	.1
40	POLYPEDILUM SP.A	7.1
41	TANYTARSUS SP. A	.1
42	TANYTARSUS SP. C	.1
43	PAGASTIA SP.	.1
44	CRICOTOPUS SP. B	.9
45	EUKIEFFERIELLA A	.4
46	EUKIEFFERIELLA B	2.5
47	EUKIEFFERIELLA E	.8

Table 17. Continued

48	EUKIEFFERIELLA F	.1
49	EUKIEFFERIELLA G	.1
50	ORTHOCLADIUS B	1.6
51	ORTHOCLADIUS MAL	1.2
52	ORTHOCLADIUS NIG	.1
53	ORTHOCLADIUS OBU	.4
54	PSECTROCLADIUS C	.1
55	SYNORTHOCLADIUS	.1
56	CHELIFERA SP.	.1
57	SIMULIUM SP.	.3
58	ANTOCHA SP.	.2
59	PHYSA SP.	.1
60	OLIGOCHAETA	.9

DIVERSITY INDEX 3.97

SAMPLE 9-57-C
[illegible]

[illegible]	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	1.7
2	BAETIS INSIGNIFI	5.2
3	BAETIS TRICAUDAT	1.4
4	CENTROPTILUM SP.A	.1
5	ATTENELLA MARGAR	1.7
6	EPHEMERELLA INFR	1.2
7	SERRATELLA TIBIA	.6
8	TIMPANOGA HECUBA	.7
9	EPEORUS ALBERTAE	.1
10	HEPTAGENIA SOLIT	1.2
11	NIXE CRIDDLEI	.1
12	NIXE SIMPLICIOID	1
13	RHITHROGENA HAGE	.9
14	PARALEPTOPHL BIC	1.1
15	PARALEPTOPHL DEB	.3
16	TRICORYTHODES MI	9.1
17	CLAASSENI SABULO	.1
18	HESPEROPERLA PAC	.4
19	ISOGENOIDES ELON	2.2
20	ISOPERLA QUINQUE	.1
21	SKWALA PARALLELA	1.3
22	PTERONARCYS CALI	.1
23	BRACHYCENTRUS OC	.1
24	ARCTOPSYCHE GRAN	.3
25	CHEUMATOPSYCHE	21
26	HYDROPSYCHE OCCI	5.1
27	SYMPHITOPS COCKE	9.4
28	HYDROPTILA SP.	3.6
29	NECTRICHIA SP.	.2
30	ZUMATRICHIA NOTO	.1
31	OECETIS SP. A	.8
32	WORMALDIA SP.	.1
33	PSYCHOMYIA FLAVI	2.4
34	PARARGYRACTIS SP	2.6
35	OREODYTES SCITIL	.3
36	OPTIOSERVUS SPP.	.8
37	ZAITZEVIA PARVUL	3.3
38	CHIRONOMUS SP.	.1
39	MICROPSECTR SP.A	.2
40	MICROPSECTR SP.C	.7
41	MICROTENDIPES SP	.6
42	PHAENOPSECTRA SP	.4
43	POLYPEDILUM SP.A	7.2
44	TANYTARSUS SP. C	.8
45	PAGASTIA SP.	.2
46	CRICOTOPUS SP. B	.3
47	EUKIEFFERIELLA A	.1
48	EUKIEFFERIELLA B	.6
49	EUKIEFFERIELLA E	.4
50	EUKIEFFERIELLA C	.1

Table 17. Continued

51	ORTHOCLADIUS B	4.4
52	ORTHOCLADIUS MAL	.9
53	ORTHOCLADIUS NIG	.1
54	ORTHOCLADIUS OBU	.3
55	PSECTROCLADIUS B	.4
56	PSECTROCLADIUS C	.2
57	ABLABESMYIA SP.	.4
58	CHELIFERA SP.	.3
59	WIEDEMANNIA SP.	.1
60	ANTOCHA SP.	.2
61	HEXATOMA SP.	.1
62	HYDROCHUS SP.	.3

DIVERSITY INDEX 4.49

Table 17. Continued

SAMPLE: 10-57-C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.1
2	BAETIS INSIGNIFI	7.5
3	BAETIS TRICAUDAT	7.8
4	ATTENELLA MARGAR	3.8
5	DRUNELLA GRANDIS	2.5
6	EPHEMERELLA INFR	.1
7	SERRATELLA TIBIA	3.6
8	EPEORUS ALBERTAE	.1
9	NIXE CRIDDLEI	.1
10	NIXE SIMPLICIOID	.1
11	RHITHROGENA HAGE	4.3
12	PARALEPTOPHL BIC	.1
13	PARALEPTOPHL DEB	.1
14	TRICORYTHODES MI	1.1
15	CLAASSENI SABULO	1.4
16	ISOGENOIDES ELON	.7
17	SKWALA PARALLELA	1.3
18	PTERONARCELLA BA	4.4
19	BRACHYCENTRUS OC	.4
20	PROTOPTILA SP.	.1
21	ARCTOPSYCHE GRAN	1.2
22	CHEUMATOPSYCHE	5.8
23	HYDROPSYCHE OCCI	4.8
24	SYMPHITOPS COCKE	5
25	HYDROPTILA SP.	.9
26	NEOTRICHIA SP.	.3
27	ZUMATRICHIA NOTO	.1
28	PARARGYRACTIS SP	.2
29	OPTIOSERVUS SPP.	9.5
30	ZAITZEVIA PARVUL	6.7
31	ATHERIX VARIEGAT	.1
32	MICROPSECTR SP.A	2.5
33	MICROPSECTR SP.C	1.6
34	MICROTENDIPES SP	.1
35	POLYPEDILUM SP.A	6.1
36	PAGASTIA SP.	.1
37	POTTHASTIA SP.	.1
38	EUKIEFFERIELLA A	.1
39	EUKIEFFERIELLA B	1.4
40	EUKIEFFERIELLA E	1.2
41	EUKIEFFERIELLA G	.1
42	ORTHOCLADIUS B	.1
43	ORTHOCLADIUS MAL	.3
44	ORTHOCLADIUS NIG	.1
45	ORTHOCLADIUS OBU	.1
46	PSECTROCLADIUS B	.1
47	SYNORTHOCLADIUS	.1
48	THIENEMANIELL SP	.2
49	ABLABESMYIA SP.	.4
50	CHELIFERA SP.	.3
51	SIMULIUM SP.	9.6
52	ANTOCHA SP.	.1
53	OLIGOCHAETA	.1
54	OLIGOCHAETA LUMB	.4
55	TURBELLARI	.2

DIVERSITY INDEX 4.55

Table 17. Continued

SAMPLE: 11-57-C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.3
2	BAETIS INSIGNIFI	25
3	BAETIS TRICAUDAT	9.7
4	ATTENELLA MARGAR	1.5
5	DRUNELLA GRANDIS	.2
6	SERRATELLA TIBIA	1.4
7	TIMPANOGA HECUBA	0
8	HEPTAGENIA SOLIT	0
9	NIXE SIMPLICIOID	.2
10	RHITHROGENA HAGE	3.9
11	PARALEPTOPHL DEB	.1
12	TRICORYTHODES MI	.7
13	CALINEURIA CALIF	.1
14	CLAASSENI SABULO	.9
15	ISOGENOIDES ELON	.1
16	SKWALA PARALLELA	.1
17	PTERONARCELLA BA	1.7
18	PTERONARCYS CALI	.1
19	BRACHYCENTRUS OC	.1
20	ARCTOPSYCHE GRAN	2.1
21	CHEUMATOPSYCHE	6.1
22	HYDROPSYCHE OCCI	16
23	SYMPHITOPS COCKE	1.7
24	HYDROPTILA SP.	0
25	ZUMATRICHIA NOTO	0
26	OECETIS SP. A	.1
27	OPTIOSERVUS SPP.	1.4
28	ZAITZEVIA PARVUL	2
29	ATHERIX VARIEGAT	3.2
30	MICROPSECTR SP.A	1.4
31	MICROPSECTR SP.C	2.1
32	MICROTENDIPES SP	.2
33	PHAENOPSECTRA SP	1.6
34	POLYPEDILUM SP.A	3
35	TANYTARSUS SP. C	.8
36	EUKIEFFERIELLA A	0
37	EUKIEFFERIELLA B	.6
38	EUKIEFFERIELLA E	.4
39	HETEROTRISSOCLAD	.1
40	ORTHOCLADIUS MAL	.2
41	ORTHOCLADIUS OBU	.3
42	PSECTROCLADIUS B	.1
43	ABLABESMYIA SP.	.5
44	CHELIFERA SP.	.1
45	SIMULIUM SP.	7.6
46	PROTANYDERUS SP.	.1
47	HEXATOMA SP.	1.8

DIVERSITY INDEX 3.91

Table 17. Continued

SAMPLE: 13-57-C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.2
2	BAETIS INSIGNIFI	14.5
3	BAETIS TRICAUDAT	4.8
4	CENTROPTILU SP.A	.3
5	ATTENELLA MARGAR	8.5
6	DRUNELLA GRANDIS	.1
7	EPHEMERELLA INFR	.1
8	SERRATELLA TIBIA	.6
9	HEPTAGENIA SOLIT	.5
10	NIXE SIMPLICIOID	5.5
11	RHITHROGENA HAGE	2.2
12	PARALEPTOPHL BIC	.1
13	PARALEPTOPHL DEB	.1
14	TRICORYTHODES MI	3.5
15	CALINEURIA CALIF	.1
16	CLAASSENI SABULO	1
17	ISOGENOIDES ELON	3
18	ISOPERLA QUINQUE	.1
19	SKWALA PARALLELA	1.1
20	PTERONARCELLA BA	.3
21	PTERONARCYS CALI	.2
22	SIGARA SP.	.1
23	BRACHYCENTRUS OC	.3
24	ARCTOPSYCHE GRAN	1.2
25	CHEUMATOPSYCHE	9.7
26	HYDROPSYCHE OCCI	10.8
27	SYMPHITOPS COCKE	5.1
28	HYDROPTILA SP.	1.2
29	ZUMATRICHIA NOTO	.1
30	CERACLEA SP.	.1
31	OECETIS SP. A	.8
32	PSYCHOMYIA FLAVI	.1
33	OREODYTES SCITIL	.1
34	OPTIOSERVUS SPP.	1.7
35	ZAITZEVIA PARVUL	2.2
36	ATHERIX VARIEGAT	.7
37	DICROTENDIP SP.C	.1
38	MICROPSECTR SP.A	3.4
39	MICROPSECTR SP.C	.8
40	MICROTENDIPES SP	1.7
41	PHAENOPSECTRA SP	1
42	POLYPEDILUM SP.A	3.5
43	XENOCHIRONOMUS	.1
44	TANYTARSUS SP. C	.8
45	CORYNONEURA SP.	.1
46	CRICOTOPUS SP. B	.1
47	EUKIEFFERIELLA B	1.7
48	EUKIEFFERIELLA E	.7
49	HETEROTRISSOCLAD	.1
50	ORTHOCLADIUS B	.5
51	ORTHOCLADIUS MAL	.7

52	ORTHOCLADIUS OBU	.3
53	PSECTROCLADIUS B	.5
54	SYNORTHOCLADIUS	.1
55	ABLABESMYIA SP.	1.1
56	CHELIFERA SP.	.1
57	SIMULIUM SP.	.1
58	HEXATOMA SP.	1.2
59	OLIGOCHAETA	.1
60	OLIGOCHAETA LUMB	.1
61	HYDROCHUS SP.	.1

DIVERSITY INDEX 4.58

Table 17. Continued

SAMPLE: 14-57-C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.1
2	BAETIS INSIGNIFI	16
3	BAETIS TRICAUDAT	1.5
4	CENTROPTILU SP.A	1
5	CAENIS SIMULANS	.2
6	ATTENELLA MARGAR	7.3
7	EPHEMERELLA INFR	.1
8	SERRATELLA TIBIA	.1
9	TIMPANOGA HECUBA	.4
10	EPEORUS ALBERTAE	.1
11	HEPTAGENIA SOLIT	1.3
12	NIXE CRIDDLEI	.5
13	NIXE SIMPLICIOID	6.8
14	RHITHROGENA HAGE	.4
15	PARALEPTOPHL BIC	2.7
16	PARALEPTOPHL DEB	.9
17	TRICORYTHODES MI	12.3
18	CALINEURIA CALIF	.1
19	CLAASSENI SABULO	.9
20	ISOGENOIDES ELON	2.6
21	SKWALA PARALLELA	.6
22	OPHIOGOMPHUS SP.	.2
23	BRACHYCENTRUS OC	.1
24	ARCTOPSYCHE GRAN	.1
25	CHEUMATOPSYCHE	5.1
26	HYDROPSYCHE OCCI	1.8
27	SYMPHITOPS COCKE	.7
28	HYDROPTILA SP.	3
29	ZUMATRICHIA NOTO	.2
30	CERACLEA SP.	.1
31	OECETIS SP. A	.6
32	PSYCHOMYIA FLAVI	.6
33	PARARGYRACTIS SP	.2
34	OREODYTES SCITIL	.1
35	OPTIOSERVUS SPP.	.4
36	ZAITZEVIA PARVUL	.7
37	BRYCHIUS SP.	.3
38	ATHERIX VARIEGAT	.1
39	CRYPTOCHIRONOMUS	.1
40	MICROPSECTR SP.A	1.5
41	MICROPSECTR SP.C	.9
42	MICROTENDIPES SP	11.2
43	PHAENOPSECTRA SP	2.8
44	POLYPEDILUM SP.A	2.9
45	TANYTARSUS SP. C	1.4
46	MONODIAMESA SP.	.1
47	CORYNONEURA SP.	.1
48	CRICOTOPUS SP. B	.3
49	EUKIEFFERIELLA A	.1
50	EUKIEFFERIELLA B	.5
51	ORTHOCLADIUS B	1.7
52	ORTHOCLADIUS MAL	.1

Table 17. Continued

53	ORTHOCLADIUS NIG	.1
54	ORTHOCLADIUS OBU	1.2
55	PSECTROCLADIUS B	.5
56	SYNORTHOCLADIUS	.3
57	ABLABESMYIA SP.	1.2
58	CHELIFERA SP.	.1
59	HEXATOMA SP.	.5
60	HYALELLA AZTECA	.1
61	LEBERTIA SP.	.1
62	OLIGOCHAETA	2.6

DIVERSITY INDEX 4.51

Table 17. Continued

SAMPLE: 15-57-C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.4
2	BAETIS INSIGNIFI	11.5
3	BAETIS TRICAUDAT	5.9
4	CENTROPTILU SP.A	.3
5	ATTENELLA MARGAR	5.7
6	EPHEMERELLA INFR	.1
7	SERRATELLA TIBIA	.6
8	TIMPANOGA HECUBA	.1
9	EPEORUS ALBERTAE	.1
10	HEPTAGENIA SOLIT	.5
11	NIXE CRIDDLEI	.4
12	NIXE SIMPLICIOID	5.7
13	RHITHROGENA HAGE	6.1
14	PARALEPTOPHL BIC	.7
15	PARALEPTOPHL DEB	.2
16	AMELETUS VELOX	.1
17	TRICORYTHODES MI	8.9
18	CLAASSENI SABULO	2.4
19	HESPEROPERLA PAC	.1
20	ISOGENOIDES ELON	4.5
21	SKWALA PARALLELA	.5
22	PTERONARCELLA BA	.5
23	SIGARA SP.	.6
24	BRACHYCENTRUS OC	.2
25	PROTOPTILA SP.	.1
26	ARCTOPSYCHE GRAN	.3
27	CHEUMATOPSYCHE	6.8
28	HYDROPSYCHE OCCI	5.9
29	SYMPHITOPS COCKE	.5
30	HYDROPTILA SP.	1.5
31	ZUMATRICHIA NOTO	.3
32	CERACLEA SP.	.1
33	PSYCHOMYIA FLAVI	.1
34	PARARGYRACTIS SP	.1
35	OREODYTES SCITIL	.9
36	OPTIOSERVUS SPP.	1.2
37	ZAITZEVIA PARVUL	1.2
38	CRYPTOCHIRONOMUS	.2
39	MICROPSECTR SP.A	2
40	MICROPSECTR SP.C	3.5
41	MICROTENDIPES SP	2.3
42	PHAENOPSECTRA SP	1.1
43	POLYPEDILUM SP.A	6.5
44	TANYTARSUS SP. C	2.7
45	CORYNONEURA SP.	.1
46	CRICOTOPUS SP. B	.1
47	EUKIEFFERIELLA B	.1
48	EUKIEFFERIELLA E	.4
49	HETEROTRISSOCLAD	.1
50	ORTHOCLADIUS B	.4
51	ORTHOCLADIUS MAL	.1

Table 17. Continued

52	ORTHOCLADIUS NIG	.1
53	ORTHOCLADIUS OBU	.5
54	PSECTROCLADIUS B	.5
55	SYNORTHOCLADIUS	.1
56	ABLABESMYIA SP.	2.4
57	CHELIFERA SP.	.1
58	SIMULIUM SP.	1.2
59	PROTANYDERUS SP.	.1
60	HEXATOMA SP.	.4
61	OLIGOCHAETA	.1

DIVERSITY INDEX 4.67

Table 17. Continued

SAMPLE: 19-57-C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	5.2
2	BAETIS TRICAUDAT	2.6
3	ATTENELLA MARGAR	1.4
4	DRUNELLA GRANDIS	.6
5	EPHEMERELLA INFR	.2
6	SERRATELLA TIBIA	.5
7	TIMPANOGA HECUBA	.1
8	EPEORUS ALBERTAE	.5
9	HEPTAGENIA SOLIT	2.1
10	NIXE SIMPLICIOID	.1
11	RHITHROGENA HAGE	.1
12	TRICORYTHODES MI	.2
13	CLASSENI SABULO	.2
14	ISOGENOIDES ELON	.2
15	SKWALA PARALLELA	.2
16	OPHIOGOMPHUS SP.	.1
17	BRACHYCENTRUS OC	.1
18	PROTOPTILA SP.	1.1
19	ARCTOPSYCHE GRAN	.2
20	CHEUMATOPSYCHE	36.8
21	HYDROPSYCHE OCCI	16.5
22	SYMPHITOPS COCKE	5.6
23	SYMPHITOPS SLOSS	2.4
24	HYDROPTILA SP.	.8
25	LEUCOTRICHIA PIC	.1
26	NEOTRICHIA SP.	.1
27	ZUMATRICHIA NOTO	.2
28	CERACLEA SP.	.5
29	OECETIS SP. A	.5
30	PSYCHOMYIA FLAVI	1.2
31	PARARGYRACTIS SP	.3
32	OPTIOSERVUS SPP.	.6
33	ZAITZEVIA PARVUL	.8
34	MICROPSECTR SP.A	2
35	MICROPSECTR SP.C	.2
36	MICROTENDIPES SP	.8
37	PHAENOPSECTRA SP	.2
38	POLYPEDILUM SP.A	8.4
39	XENOCHIRONOMUS	.2
40	TANYTARSUS SP. C	.5
41	PAGASTIA SP.	.1
42	CORYNONEURA SP.	.1
43	EUKIEFFERIELLA A	.4
44	EUKIEFFERIELLA B	.5
45	EUKIEFFERIELLA E	.9
46	ORTHOCLADIUS B	1.1
47	ORTHOCLADIUS MAL	.2
48	ORTHOCLADIUS NIG	.2
49	ORTHOCLADIUS OBU	1.1
50	PSECTROCLADIUS B	.1
51	ABLABESMYIA SP.	.2
52	ANTOCHA SP.	.1
53	TURBELLARI	.8

DIVERSITY INDEX 3.57

SAMPLE: 21-57-C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.7
2	BAETIS INSIGNIFI	2.3
3	BAETIS TRICAUDAT	1.9
4	ATTENELLA MARGAR	.7
5	DRUNELLA GRANDIS	.4
6	EPHEMERELLA INFR	.9
7	SERRATELLA TIBIA	1.8
8	TIMPANOGA HECUBA	1
9	EPEORUS ALBERTAE	1.2
10	HEPTAGENIA SOLIT	1.1
11	PARALEPTOPHL BIC	.2
12	PARALEPTOPHL DEB	.1
13	TRICORYTHODES MI	.3
14	CLAASSENI SABULO	.4
15	ISOGENOIDES ELON	.5
16	SKWALA PARALLELA	.1
17	PTERONARCYS CALI	.2
18	SIGARA SP.	.1
19	BRACHYCENTRUS OC	.9
20	PROTOPTILA SP.	.1
21	ARCTOPSYCHE GRAN	1.2
22	CHEUMATOPSYCHE	28.2
23	HYDROPSYCHE OCCI	3.7
24	SYMPHITOPS COCKE	1.6
25	SYMPHITOPS SLOSS	1.4
26	HYDROPTILA SP.	5.2
27	LEUCOTRICHIA PIC	.1
28	NEOTRICHIA SP.	.3
29	LEPIDOSTOMA SP.A	.1
30	CERACLEA SP.	1.4
31	OECETIS SP. A	.5
32	PSYCHOMYIA FLAVI	.8
33	OPTIOSERVUS SPP.	.4
34	ZAITZEVIA PARVUL	1.2
35	CRYPTOCHIRONOMUS	.1
36	MICROPSECTR SP.A	.4
37	MICROPSECTR SP.C	1.8
38	MICROTENDIPES SP	8.2
39	PHAENOPSECTRA SP	.2
40	POLYPEDILUM SP.A	11.5
41	XENOCHIRONOMUS	.1
42	PAGASTIA SP.	.1
43	CORYNONEURA SP.	.1
44	EUKIEFFERIELLA A	.3
45	EUKIEFFERIELLA E	1.2
46	EUKIEFFERIELLA G	.1
47	ORTHOCLADIUS MAL	.1
48	ORTHOCLADIUS NIG	2.9
49	ORTHOCLADIUS OBU	6.6
50	PSECTROCLADIUS B	.5
51	SYNORTHOCLADIUS	.3
52	ABLABESMYIA SP.	2.9
53	SIMULIUM SP.	.3
54	OLIGOCHAETA	.1
55	OLIGOCHAETA LUMB	.2
56	TURBELLARI	1.4

DIVERSITY INDEX 4.19

Table 17. Continued

SAMPLE: 23-57-C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS HAGENI	.2
2	BAETIS INSIGNIFI	.7
3	BAETIS TRICAUDAT	3
4	CENTROPTILU SP.B	1
5	CAENIS SIMULANS	.2
6	ATTENELLA MARGAR	.2
7	HEPTAGENIA SOLIT	1
8	NIXE CRIDDLEI	.7
9	NIXE SIMPLICIOID	2.1
10	STENONEMA SP.	5.9
11	PARALEPTOPHL BIC	6.6
12	PARALEPTOPHL DEB	3.3
13	ISOGENOIDES ELON	.2
14	OPHIOGOMPHUS SP.	.2
15	CHEUMATOPSYCHE	1.6
16	HYDROPTILA SP.	.3
17	LEPIDOSTOMA SP.A	1.2
18	CERACLEA SP.	1.9
19	POLYCENTROPUS SP	.3
20	PARARGYRACTIS SP	.2
21	OREODYTES SCITIL	.7
22	DUBIRAPHIA SP.	3.1
23	OPTIOSERVUS SPP.	.2
24	ZAITZEVIA PARVUL	.3
25	CRYPTOCHIRONOMUS	.3
26	DICROTENDIP SP.B	.2
27	MICROPSECTR SP.C	1.6
28	MICROTENDIPES SP	4.7
29	PARACHIRONOMUS	.3
30	PAGASTIA SP.	.3
31	CORYNONEURA SP.	.3
32	EUKIEFFERIELLA E	.2
33	ORTHOCLADIUS OBU	4.7
34	PSECTROCLADIUS B	.2
35	SYNORTHOCLADIUS	.9
36	THIENEMANIELL SP	.3
37	PROCLADIUS SP. A	.2
38	CHELIFERA SP.	.3
39	WIEDEMANNIA SP.	.2
40	SIMULIUM SP.	.2
41	HYALELLA AZTECA	8.3
42	GYRAULUS SP.	12.5
43	LYMNAEA SP.	1
44	PHYSA SP.	19.8
45	PISIDIUM SP.	.2
46	OLIGOCHAETA	.7
47	OLIGOCHAETA LUMB	5.9
48	TURBELLARI	1
49	MYSTACIDES SP.	.2
50	HELOBDELLA SP.	.2

DIVERSITY INDEX 4.3

Table 17. Continued

SAMPLE: 24-57-C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	2.1
2	BAETIS TRICAUDAT	.7
3	ATTENELLA MARGAR	.1
4	DRUNELLA GRANDIS	.2
5	EPHEMERELLA INFR	.1
6	TIMPANOGA HECUBA	.1
7	HEPTAGENIA SOLIT	.4
8	NIXE SIMPLICIOID	.1
9	RHITHROGENA HAGE	.3
10	STENONEMA SP.	3.6
11	PARALEPTOPHL BIC	.3
12	TRICORYTHODES MI	1
13	CLAASSENI SABULO	.1
14	ISOGENOIDES ELON	.1
15	OPHIOGOMPHUS SP.	.1
16	PROTOPTILA SP.	.5
17	ARCTOPSYCHE GRAN	.1
18	CHEUMATOPSYCHE	20.3
19	HYDROPSYCHE OCCI	.6
20	SYMPHITOPS COCKE	3.3
21	HYDROPTILA SP.	.1
22	LEUCOTRICHIA PIC	.1
23	ZUMATRICHIA NOTO	.1
24	CERACLEA SP.	3.9
25	PSYCHOMYIA FLAVI	.2
26	PARARGYRACTIS SP	.1
27	OREODYTES SCITIL	.1
28	NARPUS CONCOLOR	.1
29	OPTIOSERVUS SPP.	.3
30	ZAITZEVIA PARVUL	2.4
31	CRYPTOCHIRONOMUS	.1
32	MICROPSECTR SP.A	1.9
33	MICROPSECTR SP.C	2.2
34	MICROTENDIPES SP	10.9
35	POLYPEDILUM SP.A	2.7
36	XENOCHIRONOMUS	.5
37	TANYTARSUS SP. C	2.5
38	PAGASTIA SP.	.2
39	CRICOTOPUS SP. B	.3
40	EUKIEFFERIELLA A	.2
41	EUKIEFFERIELLA B	.3
42	EUKIEFFERIELLA E	4.4
43	ORTHOCLADIUS B	.1
44	ORTHOCLADIUS MAL	.1
45	ORTHOCLADIUS NIG	.3
46	ORTHOCLADIUS OBU	8.6
47	PSECTROCLADIUS B	.3
48	SYNORTHOCLADIUS	.8
49	ABLABESMYIA SP.	.3
50	CHELIFERA SP.	.1
51	SIMULIUM SP.	2.5
52	FERRISSIA SP.	.5
53	LYMNAEA SP.	18.3
54	OLIGOCHAETA	.1
55	OLIGOCHAETA LUMB	.6

DIVERSITY INDEX 4.01

SAMPLE: 25-58-C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	BAETIS INSIGNIFI	.1
2	ATTENELLA MARGAR	.6
3	SERRATELLA TIBIA	.1
4	TIMPANOGA HECUBA	1.5
5	EPEORUS ALBERTAE	.1
6	HEPTAGENIA SOLIT	2.7
7	NIXE SIMPLICIOID	.1
8	STENONEMA SP.	8.6
9	TRICORYTHODES MI	.4
10	CLAASSENI SABULO	.1
11	ISOGENOIDES ELON	.1
12	OPHIOGOMPHUS SP.	.1
13	PROTOPTILA SP.	.3
14	CHEUMATOPSYCHE	34.5
15	HYDROPSYCHE OCCI	.2
16	SYMPHITOPS COCKE	1.9
17	HYDROPTILA SP.	.3
18	CERACLEA SP.	1.4
19	PSYCHOMYIA FLAVI	.3
20	PARARGYRACTIS SP	.1
21	OREODYTES SCITIL	.1
22	OPTIOSERVUS SPP.	.1
23	ZAITZEVIA PARVUL	1.1
24	DICROTENDIP SP.B	.6
25	DICROTENDIP SP.C	.2
26	MICROPSECTR SP.A	.6
27	MICROPSECTR SP.C	3.4
28	MICROTENDIPES SP	2.1
29	POLYPEDILUM SP.A	.5
30	TANYTARSUS SP. C	3.2
31	STICTOCHIRONO SP	.4
32	EUKIEFFERIELLA E	.5
33	ORTHOCLADIUS OBU	1.2
34	SYNORTHOCLADIUS	.1
35	ABLABESMYIA SP.	.5
36	LEBERTIA SP.	.1
37	FERRISSIA SP.	.1
38	GYRAULUS SP.	12.4
39	LYMNAEA SP.	18
40	PHYSA SP.	.2
41	OLIGOCHAETA LUMB	1.3

DIVERSITY INDEX 3.3

SAMPLE: 27-58-C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CENTROPTILU SP.B	1.3
2	TIMPANOGA HECUBA	2.1
3	HEPTAGENIA SOLIT	1.6
4	NIXE SIMPLICIOID	.3
5	STENONEMA SP.	.3
6	TRICORYTHODES MI	.3
7	CHEUMATOPSYCHE	.3
8	SYMPHITOPS COCKE	.5
9	ZAITZEVIA PARVUL	7.9
10	CRYPTOTENDIPE SP	.3
11	DICROTENDIP SP.B	15.3
12	DICROTENDIP SP.C	.3
13	MICROPSECTR SP.A	5.3
14	MICROPSECTR SP.C	6.9
15	MICROTENDIPES SP	1.1
16	PARACLADOPE SP.B	.3
17	PHAENOPSECTRA SP	1.1
18	POLYPEDILUM SP.A	.3
19	POLYPEDILUM SP.D	.8
20	TANYTARSUS SP. C	2.6
21	EUKIEFFERIELLA E	.3
22	ORTHOCLADIUS OBU	4
23	PSECTROCLADIUS B	1.1
24	SIMULIUM SP.	.3
25	CLADOCERA	35.7
26	LEBERTIA SP.	.3
27	OLIGOCHAETA LUMB	9
28	PARACHIRON SP. B	.8

DIVERSITY INDEX 3.26

SAMPLE: 31-58-C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CENTROPTILU SP.A	.5
2	NIXE SIMPLICIOID	1.4
3	STENONEMA SP.	.8
4	PARALEPTOPHL BIC	38.3
5	PARALEPTOPHL DEB	5.9
6	TRICORYTHODES MI	7.2
7	CHEUMATOPSYCHE	2.7
8	SYMPHITOPS COCKE	.3
9	HYDROPTILA SP.	1.4
10	CERACLEA SP.	1.3
11	CRYPTOCHIRONOMUS	.4
12	DICROTENDIP SP.B	.5
13	MICROPSECTR SP.A	.3
14	MICROPSECTR SP.C	.3
15	MICROTENDIPES SP	13.9
16	PARACLADOPE SP.B	.1
17	PHAENOPSECTRA SP	.2
18	TANYTARSUS SP. C	.8
19	POTTHASTIA SP.	.1
20	BRILLIA SP.	.1
21	ORTHOCLADIUS OBU	4.3
22	PSECTROCLADIUS B	.1
23	SYNORTHOCLADIUS	2.2
24	ABLABESMYIA SP.	.3
25	SIMULIUM SP.	.5
26	TIPULA SP.	.6
27	CLADOCERA	.3
28	LEBERTIA SP.	.3
29	GYRAULUS SP.	6.7
30	LYMNAEA SP.	5.7
31	PHYSA SP.	.6
32	OLIGOCHAETA LUMB	.6
33	PARACHIRON SP. B	.1
34	PARATANYTAR SP.B	.2
35	GAMMARUS SP.	1.3

DIVERSITY INDEX 3.33

Table 17. Deep Water Monitoring Stations - Petite Ponar Grab Samples

SAMPLE: 3-57C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP.	9.7
2	OLIGOCHAETA	90.3

DIVERSITY INDEX .46

SAMPLE: 26-57C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP.	.1
2	CRYPTOCHIRONOMUS	.6
3	CRYPTOTENDIPE SP	.9
4	DICROTENDIP SP.A	.6
5	PARACLADOPE SP.B	.1
6	PARALAUTERBORNIE	2.1
7	POLYPEDILUM SP.C	7.1
8	TANYTARSUS SP. A	.1
9	MONODIAMESA SP.	.1
10	PROCLADIUS SP. A	.3
11	OLIGOCHAETA	87.9

DIVERSITY INDEX .77

SAMPLE: 28A-57C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	PALPOMY-GP SP. A	.7
2	TANYTARSUS SP. A	6.7
3	PROCLADIUS SP. A	17.4
4	CLADOCERA	1.3
5	OSTRACODA	.7
6	OLIGOCHAETA	73.2

DIVERSITY INDEX 1.21

SAMPLE: 28B-57C
SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	CHIRONOMUS SP.	1.4
2	TANYTARSUS SP. A	.1
3	PROCLADIUS SP. A	1.1
4	OLIGOCHAETA	97.4

DIVERSITY INDEX .2

SAMPLE: 30B-57C

SPECIES DISTRIBUTION DATA

SPECIES	SPECIES NAME	PERCENTAGE
1	OECETIS SP. B	.5
2	PALPOMY-GP SP. A	3.6
3	CRYPTOCHIRONOMUS	.9
4	DICROTENDIP SP.A	.5
5	LENZIELLA SP.	1.4
6	PARALAUTERBORNIE	10.9
7	POLYPEDILUM SP.B	.9
8	TANYTARSUS SP. A	.5
9	PROCLADIUS SP. A	1.4
10	CLADOCERA	7.3
11	OSTRACODA	.5
12	OLIGOCHAETA	66.4
13	COPEPODA	5.5

DIVERSITY INDEX 1.85

Site Number	1	2	4	5	6	8	9	10	11	13	15	16	17	18	19	20	21	22	24	27
1																				
2	55																			
4	59	55																		
5	57	54	68																	
6	61	59	70	54																
8	66	43	55	40	66															
9	64	40	54	38	65	83														
10	50	43	45	33	57	53	53													
11	70	50	49	44	62	71	68	56												
13	66	49	55	51	56	64	59	59	72											
15	67	37	42	44	49	68	69	46	69	73										
16	54	31	36	27	50	67	68	60	68	56	64									
17	59	35	42	34	52	67	69	51	67	53	68	72								
18	70	43	57	47	58	62	62	52	66	57	63	52	72							
19	62	33	42	36	53	68	67	42	65	51	65	63	80	71						
20	68	40	51	53	59	62	60	42	69	56	64	60	60	72	71					
21	66	36	40	43	49	56	59	39	60	49	66	61	73	74	81	77				
22	51	22	24	28	35	54	58	37	52	54	69	57	63	58	68	62	74			
24	7	7	7	6	10	10	12	10	14	9	8	16	9	9	16	17	20	22		
27	4	22	14	6	27	19	21	24	15	11	13	23	18	10	12	12	9	9	18	

Figure 18.A. Similarity coefficients for kick samples taken during spring of 1984, Clark Fork River and tributaries (x 100). Coefficients greater than 40 are underlined; those greater than 60 are double-underlined.

Site Number	1	2	4	5	6	8	9	10	11	13	14	15	19	21	23	24	25	27	31
1																			
2	40																		
4	60	53																	
5	43	33	63																
6	44	27	53	55															
8	35	26	40	41	57														
9	53	36	54	54	67	56													
10	51	47	49	42	46	32	50												
11	51	35	46	36	41	30	57	64											
13	39	17	27	27	48	33	42	44	43										
14	39	27	31	30	43	35	58	47	58	54									
15	48	31	39	33	41	34	58	53	77	48	66								
19	40	24	37	40	66	41	61	40	46	44	49	45							
21	41	26	38	45	63	42	63	40	34	40	50	35	69						
23	8	6	7	10	15	12	12	13	12	15	27	14	21	25					
24	20	14	23	28	50	32	42	27	25	25	41	29	50	56	34				
25	25	14	19	27	58	34	41	38	27	36	37	32	52	57	24	52			
27	7	5	5	6	10	10	8	8	6	14	9	7	13	10	12	9	12		
31	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	69	

Figure 18.B. Similarity coefficients for kick samples taken during summer of 1984, Clark Fork River and tributaries (x 100). Coefficients greater than 40 are underlined; those greater than 60 are double-underlined. (Replicate data for each site combined.)

Site Number	1	2	4	5	6	8	9	10	11	13	14	15	19	21	23	24	25	27
1																		
2	49																	
4	53	46																
5	68	57	75															
6	65	54	59	65														
8	59	52	61	70	65													
9	59	55	63	68	80	74												
10	45	44	70	60	53	53	60											
11	62	52	57	67	58	69	71	61										
13	16	23	26	21	24	32	33	33	49									
14	37	38	55	48	51	55	61	59	70	64								
15	68	52	58	69	64	74	73	60	87	44	67							
19	57	54	60	65	73	73	81	63	76	39	69	80						
21	66	50	49	57	74	67	70	52	66	37	58	72	76					
23	3	10	5	6	6	11	10	8	12	10	12	8	7	5				
24	7	18	16	16	19	23	22	18	21	18	22	19	20	20	21			
25	5	17	27	15	27	25	35	30	24	26	36	24	31	29	16	40		
27	5	17	28	19	31	28	32	27	19	20	30	19	30	25	11	30	51	

Figure 18.C. Similarity coefficients for kick samples taken during fall of 1984, Clark Fork River and tributaries (x 100). Coefficients greater than 40 are underlined; those greater than 60 are double-underlined. (Replicate data for each site combined.)

Site Number	1	2	4	5	6	8	9	10	11	13	14	15	19	21	23	24	25	27	31
1																			
2	39																		
4	42	30																	
5	55	40	58																
6	65	33	43	46															
8	66	43	34	44	63														
9	56	44	53	62	57	57													
10	52	41	36	51	55	52	43												
11	56	37	48	64	46	48	56	48											
13	57	36	39	45	64	58	56	51	64										
14	47	33	42	48	53	43	57	40	63	79									
15	44	40	39	46	49	40	58	38	59	75	84								
19	62	53	51	61	52	56	68	44	60	56	51	53							
21	52	24	30	33	58	50	39	49	31	47	36	34	42						
23	18	15	18	17	17	16	17	14	32	32	31	31	17	13					
24	27	36	29	21	26	41	36	22	45	52	52	55	39	19	35				
25	20	20	18	13	20	31	27	9	34	45	48	48	23	13	30	71			
27	25	27	35	19	33	31	35	26	41	44	39	38	32	20	33	54	44		
31	20	13	24	12	19	18	21	12	31	46	45	47	24	16	27	41	40	36	

Figure 18.D. Similarity coefficients for kick samples taken during spring of 1985, Clark Fork River and tributaries (x 100). Coefficients greater than 40 are underlined; those greater than 60 are double-underlined. (Replicate data for each site combined.)

Site Number	1	2	4	5	6	8	9	10	11	13	14	15	19	21	23	24	25	27	31
1																			
2	38																		
4	58	44																	
5	57	36	69																
6	58	35	67	74															
8	54	31	69	73	75														
9	48	33	61	56	68	70													
10	64	45	54	52	50	46	45												
11	65	34	43	50	49	37	35	59											
13	62	36	47	50	61	50	55	56	61										
14	36	23	28	29	47	32	49	35	41	62									
15	52	32	43	43	52	44	54	55	54	71	65								
19	50	29	49	52	57	58	59	41	44	50	31	40							
21	31	29	48	44	52	51	54	36	29	38	37	39	61						
23	10	13	10	9	13	10	12	11	9	13	21	17	11	22					
24	24	24	34	39	41	37	40	30	27	33	34	30	41	53	25				
25	12	16	26	31	33	31	33	16	16	22	18	22	47	44	31	59			
27	9	18	11	9	9	5	11	14	10	13	12	15	9	13	16	18	17		
31	9	7	7	4	13	10	17	8	7	14	32	20	8	21	35	31	25	10	

Figure 18.E. Similarity coefficients for kick samples taken during summer of 1985, Clark Fork River and tributaries (x 100). Coefficients greater than 40 are underlined; those greater than 60 are double-underlined. (Replicate data for each site combined.)

Table 19. Genera of soft-bodied (non-diatom) algae found in periphyton samples from the lower Clark Fork River and tributaries.

Taxa	March 5-9, 1984	July 31-August 3, 1984	October 30-November 2, 1984	March 18-21, 1985	July 29-August 1, 1985
Green Algae (Chlorophyta)					
<u>Ankistrodesmus</u>	X	X	X	X	X
<u>Botryococcus</u>		X			
<u>Bulbochaete</u>		X			X
<u>Chaetophora</u>			X		
<u>Cladophora</u>	X	X	X	X	X
<u>Closterium</u>	X	X	X	X	X
<u>Coelastrum</u>	X		X		
<u>Cosmarium</u>	X	X	X	X	X
<u>Cylindrocapsa</u>				X	
<u>Gloeocystis</u>			X		
<u>Gongrosira</u>		X			X
<u>Hormidium</u>					X
<u>Mougeotia</u>	X	X	X	X	X
<u>Nephrocytium</u>		X			
<u>Oedogonium</u>	X	X	X	X	X
<u>Oocystis</u>					X
<u>Pediastrum</u>	X	X	X	X	X
<u>Planktosphaeria</u>					X
<u>Pseudoulvella</u>		X			
<u>Scenedesmus</u>	X	X	X	X	X
<u>Selenastrum</u>					X
<u>Sphaerocystis</u>			X	X	
<u>Spirogyra</u>	X	X	X	X	X
<u>Staurastrum</u>	X	X	X	X	X
<u>Stigeoclonium</u>	X	X	X	X	X
<u>Ulothrix</u>	X	X	X	X	X
<u>Westella</u>					X
<u>Zygnema</u>			X	X	X
Golden-brown Algae (Chrysophyta)					
<u>Dinobryon</u>	X				
<u>Hydrurus</u>	X	X	X	X	
<u>Tribonema</u>	X			X	
<u>Vaucheria</u>			X		
Red Algae (Rhodophyta)					
<u>Audouinella</u>	X	X	X	X	X
<u>Lemanea</u>		X			

Table 19. (Continued)

Taxa	March 5-9, 1984	July 31-August 3, 1984	October 30-November 2, 1984	March 18-21, 1985	July 29-August 1, 1985
Blue-green Algae (Cyanophyta)					
Calothrix		X	X	X	
Chamaesiphon	X				
Chroococcus	X		X		
Coelosphaerium		X			X
Dactylococcopsis		X	X	X	
Dichothrix		X	X	X	
Lyngbya	X				
Merismopedia		X			X
Nostoc		X	X	X	X
Oscillatoria	X	X	X	X	X
Phormidium	X	X	X	X	X
Rivularia	X	X	X	X	X
Romeria					X
Tolypothrix	X	X	X	X	X
Total Genera	24	30	29	26	28

Table 20. Structure and composition of benthic diatom associations from the Lower Clark Fork River, Spring 1984, including Shannon Diversity Index and percent of cells[1] representing species in the three pollution tolerance groups of Lange-Bertalot (1979).

		CFR at Turah	Blackfoot River near mouth	CFR Milltown Dam	CFR Above Missoula	CFR Above Missoula WWTP	CFR Below Missoula WWTP	CFR at Shuffields	Bitterroot River Near Mouth	CFR at Harper Bridge	CFR .05 Mi. Blw. Champion
Species Counted		26	27	26	26	18	23	26	31	21	20
Species Diversity		3.581	3.425	3.505	3.043	2.395	3.426	3.359	3.117	3.615	2.862
L-B Groups:											
1. Most Tolerant		4.4	11.7	6.6	5.7	3.2	21.9	4.0	1.4	2.7	6.5
2. More Tolerant		58.1	29.3	35.6	42.8	26.5	49.1	31.8	25.5	32.6	38.5
3. Sensitive		37.9	59.7	58.1	51.4	70.4	29.2	64.4	73.2	64.9	54.8
Major Species (%)[2] and L-B Group:											
Achnanthes deflexa	3								4.5	+	
Achnanthes minutissima	3	2.3	6.6	2.4	0.8	0.8	1.9	0.8	44.2	7.7	0.5
Cymbella affinis	3	0.3	7.4	3.0	0.5	0.5	3.5	5.2	4.7	8.2	1.0
Cymbella minuta	2	15.0	4.1	5.6	1.0	3.4	3.2	6.6	14.1	14.3	14.2
Cymbella sinuata	3	1.6	0.3	0.8	+		0.3	+	0.5	+	0.8
Diatoma tenue	2	18.9	+	3.0	14.2	3.4	0.5	4.4		0.8	2.4
Fragilaria construens	3	1.0	1.3	1.1	+	+	0.8	[illegible]	0.5	0.8	
Fragilaria pinnata	3	0.3	+	+	1.3		0.5	-	0.3	2.4	
Fragilaria vaucheriae	2	11.1	19.6	13.6	17.6	12.0	3.5	13.3	0.8	3.2	8.4
Gomphonema olivaceum	3	19.7	26.5	27.4	39.1	51.7	7.7	34.0	+	19.9	43.8
Navicula accomoda	1						5.9				
Navicula cryptocephala[3]	1	+	7.6	4.0	2.1	2.4	0.5	[illegible]	0.8	2.4	5.5
Nitzschia dissipata	3	4.7	4.1	18.9	[illegible]	15.0	5.1	[illegible]	6.0	12.4	4.7
Nitzschia frustulum	3	1.6	0.3	2.4	0.5	1.6	8.0	[illegible]	3.1	9.0	
Nitzschia paleacea	2	2.1	3.1	3.2	3.4	3.4	4.0	2.9	2.1	5.8	8.7
Nitzschia perpusilla	2	3.1	0.8	4.3	0.5	0.8	37.9	-	4.7	1.9	2.9
Nitzschia romana	3					+?		[illegible]		2.6	2.1
Surirella ovata	2	6.0	+	2.1	2.6	[illegible]	+	[illegible]		+	0.3
Synedra mazamaensis	3	1.3	9.7	0.5	1.0	0.8	+	[illegible]	3.4	0.3	1.0

421

Table 20. Continued

	L-B Group	CFR at Huson	CFR at Ninemile	CFR at Lozeau	CFR Near St. Regis	Flathead River Near Mouth	CFR at Plains	CFR Above T. Falls Reservoir	CFR Below T. Falls Reservoir	CFR Below Noxon Reservoir
Species Counted		22	25	23	25	55	40	45	34	35
Species Diversity		3.300	3.445	3.353	3.250	4.794	4.329	4.724	3.752	3.975
L-B Groups:										
1. Most Tolerant		7.0	1.8	7.9	10.0	9.1	13.8	14.7	4.3	6.2
2. More Tolerant		35.4	25.6	20.6	20.7	24.4	30.6	30.9	30.1	26.3
3. Sensitive		57.4	72.8	71.6	69.1	67.0	55.3	55.0	65.6	68.1
Major Species (%)[2] and L-B Group:										
Achnanthes deflexa	3		+			0.3		0.5		12.4
Achnanthes minutissima	3	2.7	3.7	1.8	1.0	14.4	5.9	8.6	32.0	25.9
Cymbella affinis	3	1.9	10.1	1.8	1.0	5.8	10.3	3.9	7.5	1.4
Cymbella minuta	2	8.0	10.4	7.6	5.1	4.4	6.8	2.1	2.2	1.4
Cymbella sinuata	3	9.1	1.1	0.3	0.5	0.3	1.2	1.6	+	+
Diatoma tenue	2	6.2	0.6	2.1	3.7	3.0	4.9	5.7	5.9	5.5
Fragilaria construens	3	0.5	0.3	+	1.7	10.2	2.3	2.3	0.8	0.3
Fragilaria pinnata	3			0.3	+	5.2	0.2	0.5	1.1	
Fragilaria vaucheriae	2	7.2	2.0	2.9	3.7	8.6	10.1	10.9	13.2	3.0
Gomphonema olivaceum	3	36.7	25.8	27.8	38.6		13.8	6.0	2.2	6.3
Navicula accomoda	1	+								
Navicula cryptocephala[3]	1	4.8	1.7	1.3	0.5		0.9	1.6	1.1	1.1
Nitzschia dissipata	3	3.8	0.6	7.9	9.5	1.1	10.1	7.3	2.7	2.8
Nitzschia frustulum	3	+	14.3	10.0	8.6	1.1	2.6	6.3	6.2	6.6
Nitzschia paleacea	2	7.5	11.0	11.3	6.1		0.7	1.8	0.8	0.8
Nitzschia perpusilla	2	4.3	8.4	5.0	6.8		3.5	2.9	1.3	5.8
Nitzschia romana	3	0.8	2.8	15.2	7.3	0.6	5.6	4.7	3.8	1.1
Surirella ovata	2	0.3	+	0.3	+	0.3	+	0.5	0.3	
Synedra mazamaensis	3	1.3	1.4	1.0	1.0	+	1.2	0.8	1.3	2.2

1. Range of cells 356–427
2. + indicates species present but not counted.
3. Predominantly variety veneta.

Table 20. Structure and composition of benthic diatom associations from the Lower Clark Fork River, Summer 1984, including Shannon Diversity Index and percent of cells[1] representing species in the three pollution tolerance groups of Lange-Bertalot (1979).

		CFR at Turah	Blackfoot River near mouth	CFR Blw. Milltown Dam	CFR Above Missoula	CFR Above Missoula WWTP	CFR Below Missoula WWTP	CFR at Shuffields	Bitterroot River Near Mouth	CFR at Harper Bridge	CFR 0.5 Mi. Blw. Champion
Species Counted		28	34	32	31	35	27	29	28	23	24
Species Diversity		3.053	3.941	3.743	3.376	3.759	3.483	3.233	2.876	2.775	2.684
L-B Groups:											
1. Most Tolerant		4.9	3.2	6.9	4.8	5.1	41.0	6.0	1.4	2.3	2.5
2. More Tolerant		25.4	26.7	20.1	27.7	30.8	36.5	33.6	10.9	27.6	15.4
3. Sensitive		69.2	69.9	72.5	67.6	63.6	22.8	60.3	87.6	69.7	82.1
Major Species (%)[2] and L-B Group:											
Achnanthes deflexa	3		0.5	+	+	+	+		3.9	2.7	0.2
Achnanthes lanceolata	2	0.2	0.5	+	0.2	+	0.2	0.2	+	0.2	+
Achnanthes minutissima	3	3.4	22.0	7.4	9.5	5.1	6.3	8.1	55.9	28.0	22.2
Amphora perpusilla	3	1.0	3.6	0.7	1.2	1.7	+	+	+	0.4	+
Cocconeis placentula	3	1.7	8.8	1.7	1.0	2.0	0.5	1.2	0.7	0.4	1.4
Cymbella affinis	3	12.6	11.0	12.8	6.2	6.4	6.8	36.0	2.1	30.0	46.8
Cymbella microcephala	2		0.2		+						
Epithemia sorex	3	41.3	5.3	30.2	35.9	30.6	0.2	4.4	0.5	+	0.5
Fragilaria capucina	3	+	+?								
Fragilaria construens	3	+	3.3	4.9	+	1.2	+	0.5	0.5	+	1.2
Gomphonema olivaceum	3	1.2	0.7	1.5	2.9	2.7	0.5	1.4		0.4	2.1
Gomphonema tenellum	3	+	3.6	1.2	0.7	1.7	0.2	0.5	3.9	+	0.2
Gomphonema tergistinum	3								3.7	0.4	1.2
Navicula radiosa[3]	2	0.5	14.8	2.7	5.2	7.6	2.3	4.9	0.2	4.5	1.9
Navicula salinarum[4]	2	+	0.7	0.2	0.2	0.2	+	0.2	1.4	0.4	+
Nitzschia dissipata	3	3.6	1.9	3.9	2.9	4.9	2.3	4.7	2.3	4.7	2.5
Nitzschia palea	1	0.2	0.2	0.7	0.7	0.5	24.0	1.6	-	0.2	
Nitzschia paleacea	2	16.7	5.5	6.9	16.9	14.0	7.5	20.7	3.9	19.9	9.0
Nitzschia perpusilla	2	3.6	1.2	6.9	2.9	4.4	22.9	1.9	1.9	0.9	1.9
Stephanodiscus dubius	3										
Stephanodiscus minutus	2										

Table 20 Continued

	L-B Group	CFR 4 Mi. Below Champion	CFR at Huson	CFR at Lozeau	CFR Near St. Regis	Flathead River Near Mouth	CFR at Plains	CFR Above T. Falls Reservoir	CFR Below T. Falls Reservoir	CFR Below Noxon Reservoir	CFR Below Cabinet Gorge Res.
Species Counted		32	25	28	34	47	35	38	41	53	51
Species Diversity		3.042	2.947	3.592	3.736	4.034	3.834	3.914	4.646	4.508	4.353
L-B Groups:											
1. Most Tolerant		3.2	3.2	4.3	10.1	3.5	5.8	5.8	7.6	4.1	0.7
2. More Tolerant		19.3	21.2	38.4	36.4	35.9	20.7	34.0	38.0	19.1	21.3
3. Sensitive		77.3	75.5	57.6	53.5	62.3	73.2	59.8	54.0	76.7	77.9
Major Species (%) and L-B Group:											
Achnanthes deflexa	3	0.2	+		+	3.3	0.5	0.2		0.5	0.5
Achnanthes lanceolata	2	0.5	+	1.4	0.2	1.0	+	0.2	1.0	5.9	2.3
Achnanthes minutissima	3	17.8	28.7	12.8	23.3	26.0	15.8	16.7	11.1	24.5	28.2
Amphora perpusilla	3	0.2	0.9	0.9	0.5	3.3	2.6	0.7	0.5	3.6	0.2
Cocconeis placentula	3	1.8	0.7	1.2	1.1	5.0	3.1	2.1	3.4	0.5	2.3
Cymbella affinis	3	43.1	32.6	25.1	9.6	2.3	24.5	20.0	7.4	4.3	1.1
Cymbella microcephala	2					22.5	1.4	1.4	0.5	0.7	0.5
Epithemia sorex	3	1.1	0.9	1.9	7.3	+	7.5	7.1	3.0	8.6	3.4
Fragilaria capucina	3					+				0.9?	4.5
Fragilaria construens	3	1.6	+	0.9	1.1	2.3	3.3	0.7	5.4	6.6	7.5
Gomphonema olivaceum	3	1.1	2.1	1.2	0.5		1.4	0.5	2.2	+	0.2
Gomphonema tenellum	3	+	+	1.2	0.5	2.0	+	0.7		0.9	1.8
Gomphonema tergestinum	3	0.7	0.7	0.2	+					+?	
Navicula radiosa[3]	2	2.5	3.0	6.7	2.1	3.8	2.4	3.1	4.9	1.1	0.2
Navicula salinarum[4]	2	0.5	0.2	1.2	0.9	1.0	1.9	2.1	6.9	2.0	1.6
Nitzschia dissipata	3	4.1	3.9	3.7	2.3	1.5	8.7	4.9	5.9	5.4	0.9
Nitzschia palea	1	0.2	0.7	0.2	1.8	1.3	0.7	1.2	2.7	0.7	+
Nitzschia paleacea	2	10.0	11.7	17.9	19.2	1.0	9.7	15.8	10.8	+	3.2
Nitzschia perpusilla	2	4.1	4.6	8.8	9.1		0.9	4.2	2.2	0.5	
Stephanodiscus dubius	3									0.5	9.5
Stephanodiscus minutus	2										3.4

1. Range of cells 10–47
2. + indicates species present but not counted
3. Predominantly variety tenella.
4. Predominantly variety intermedia.

Table 20. Structure and composition of benthic diatom associations from the Lower Clark Fork River, Fall 1984, including Shannon Diversity Index and percent of cells[1] representing species in the three pollution tolerance groups of Lange-Bertalot (1979).

		CFR at Turah	Blackfoot River near mouth	CFR Milltown Dam	CFR Above Missoula	CFR Above Missoula WWTP	CFR Below Missoula WWTP	CFR at Shuffields	Bitterroot River Near Mouth	CFR at Harper Bridge	CFR .05 Mi. Blw. Champion
Species Counted		31	43	41	39	41	35	31	32	23	26
Species Diversity		4.022	4.326	4.146	3.791	4.292	3.730	3.755	3.099	3.144	3.209
L-B Groups											
1. Most Tolerant		4.5	15.4	6.2	7.1	9.3	56.0	4.8	1.4	1.9	4.7
2. More Tolerant		34.7	27.1	36.3	20.9	37.2	27.1	23.8	18.7	14.7	12.2
3. Sensitive		61.5	57.6	58.0	72.3	53.8	17.1	71.7	80.2	83.4	82.7
Major Species (%)[2] and L-B Group:											
Achnanthes lanceolata	2	0.6	0.9	0.5	0.8	0.9	0.8		0.6	+	+
Achnanthes minutissima	3	3.6	11.0	7.6	8.7	5.1	1.6	2.1	46.7	11.5	5.5
Amphora veneta	1						18.6	0.3			
Cocconeis placentula	3	1.2	6.7	3.4	1.4	4.3		1.3	2.5	0.6	0.7
Cyclotella meneghiniana	2	1.2		0.8	1.1	1.9	0.5		0.3		0.5
Cymbella affinis	3	7.6	9.0	12.5	5.2	1.9	1.3	22.2	10.2	28.7	37.2
Cymbella microcephala	2		0.3								
Cymbella minuta	2	1.5	3.5	1.0	0.3	1.3	1.0	2.6	5.1	2.0	1.5
Diatoma vulgare	3	9.4	2.6	5.0	7.1	4.6	0.8	5.0	3.4	2.0	6.0
Epithemia sorex	3	17.6	1.2	7.0	31.7	12.7	0.3	3.4	0.3	0.8	1.0
Fragilaria construens	3	0.3	2.9	2.3	2.5	1.9	0.8	0.5	0.3	1.7	1.2
Fragilaria vaucheriae	2	13.0	1.2	3.7	3.3	2.7	1.6	2.6	+	0.6	0.7
Melosira varians	2	0.3									
Navicula accomoda	1						8.1				
Navicula salinarum[3]	2	0.9	1.7	0.8	0.3	1.1		0.8	0.3	1.4	0.2
Navicula subminuscula	1						21.8				
Nitzschia dissipata	3	5.8	2.0	6.0	5.5	6.2	1.8	15.1	2.0	7.3	9.4
Nitzschia fonticola	3	1.5	3.2	3.7	2.5	6.2	3.7	0.8			
Nitzschia frustulum	3						0.5	0.5			
Nitzschia paleacea	2	10.6	17.7	23.0	9.8	20.2	7.3	13.8	10.2	7.6	5.7
Nitzschia perpusilla	2	2.7	+	1.0	1.4	1.3	11.3	0.8	0.8	0.8	1.7
Nitzschia romana	3						5.2	10.7	4.0	26.1	17.4
Synedra rumpens	3		0.9	0.5	0.3	0.3	+			+	
Synedra ulna	1	3.6	11.9	3.7	5.2	6.5	0.3	[illegible]	+	1.1	2.0

	I-B Group	CFR 4 Mi. Below Champion	CFR at Huson	CFR at Lozeau	CFR Near St. Regis	Flathead River Near Mouth	CFR at Plains	CFR Above T. Falls Reservoir	CFR Below T. Falls Reservoir	CFR Below Noxon Reservoir	CFR Below Cabinet Gorge Res.
Species Counted		30	25	32	34	39	37	38	43	57	56
Sopecies Diversity		[illegible].690	3.028	3.913	4.085	3.318	4.008	4.065	4.405	4.867	4.725
I-B Groups											
1. Most Tolerant		6.7	4.8	13.4	9.4	7.4	9.2	4.4	7.0	6.1	4.7
2. More Tolerant		16.6	14.5	20.2	31.4	20.0	37.1	28.2	39.5	34.2	23.1
3. Sensitive		76.8	80.9	66.1	59.2	73.1	53.6	68.0	53.9	60.4	72.1
Major Species (%)[2] and I-B Group:											
Achnanthes lanceolata	2	0.7	0.3	0.5	1.2	2.3	0.5	0.6	1.5	4.0	7.3
Achnanthes minutissima	3	7.6	5.6	7.9	7.8	49.3	8.6	20.4	9.2	11.2	12.7
Amphora veneta	1										
Cocconeis placentula	3	2.8	0.8	2.5	5.8	2.0	3.8	3.6	2.0	2.1	3.7
Cyclotella meneghiniana	2	0.7	0.3	1.2	1.8		0.8	0.3	3.3	8.8	4.2
Cymbella affinis	3	25.8	36.3	13.5	12.9	0.3	12.4	10.5	9.4	3.2	0.6
Cymbella microcephala	2					8.3	0.5	3.6	1.3	+	0.6
Cymbella minuta	2	0.9	0.3		0.7	1.1	0.8	0.6	1.0	1.3	0.6
Diatoma vulgare	3	2.8	5.6	4.7	1.8		2.2	1.4	3.3	0.5	
Epithemia sorex	3	1.8	1.6	1.7	3.9		3.0	5.2	1.3	1.6	1.1
Fragilaria construens	3	0.9	0.3	1.5	2.5	3.7	2.7	2.2	3.8	9.8	10.7
Fragilaria vaucheriae	2	0.5		0.5		0.6	2.2	3.3	3.3	0.5	0.3
Melosira varians	2		+						+	5.3	1.7
Navicula accomoda	1										
Navicula salinarum[3]	2	2.1	1.6	2.9	3.0	+	1.6	2.5	5.1	3.5	0.8
Navicula subminuscula	1										
Nitzschia dissipata	3	8.8	6.1	8.4	6.2	2.3	4.3	8.6	6.4	5.1	6.8
Nitzschia fonticola	3										+
Nitzschia frustulum	3			0.5	0.2	2.0		2.5	1.0	6.4	10.2
Nitzschia paleacea	2	7.6	10.4	12.5	20.7	2.0	28.0	15.5	21.9	3.5	2.5
Nitzschia perpusilla	2	0.7	1.1	1.5	1.4		0.5	0.3	0.8	0.5	0.3
Nitzschia romana	3	18.2	21.1	17.7	8.1	0.9	4.6	3.3	2.6	2.7	0.6
Synedra rumpens	3	+			+	3.1	1.1	0.6	1.0	1.1	0.8
Synedra ulna	1	2.8	3.2	9.1	5.3	3.7	4.9	1.1	2.3	0.8	0.6

1. Range of cells 33[illegible]
2. + indicates species present but not counted.
3. Predominantly variety *intermedia*.

Table 20. Structure and composition of benthic diatom associations from the Lower Clark Fork River, Spring 1985, including Shannon Diversity Index and percent of cells[1] representing species in the three pollution tolerance groups of Lange-Bertalot (1979).

		CFR at Turah	Blackfoot River near mouth	CFR Blw. Milltown Dam	CFR Above Missoula	CFR Above Missoula WWTP	CFR Below Missoula WWTP	CFR at Shuffields	Bitterroot River Near Mouth	CFR at Harper Bridge	CFR 0.5 Mi. Blw. Champion
Species Counted:		26	27	35	27	34	32	26	33	31	29
Species Diversity		2.930	3.486	3.389	3.263	3.901	3.787	3.435	3.294	3.784	3.932
L-B Groups:											
1. Most Tolerant		1.9	6.4	4.4	5.8	7.2	22.9	4.3	1.1	2.6	7.9
2. More Tolerant		38.2	42.9	43.0	37.9	43.6	34.6	37.0	52.7	24.2	27.2
3. Sensitive		59.9	50.5	52.0	56.2	49.1	42.0	58.9	46.3	73.0	64.9
Major Species (%)[2] and L-B Group:											
Achnanthes minutissima	3	3.3	6.2	3.5	2.3	4.0	0.9	2.5	15.5	12.9	12.0
Cymbella affinis	3	0.5	3.7	2.9	2.8	1.4	0.2	19.6	0.5	12.7	9.2
Cymbella microcephala	2		0.2								
Cymbella minuta	2	8.4	6.7	2.7	3.0	6.7	1.9	3.2	39.8	10.0	10.4
Diatoma tenus	2	0.2	0.5	2.9	4.2	6.3	0.5	7.0		1.2	1.4
Epithemia sorex	3	4.0	0.2	0.2	2.8	2.6		0.7	+	1.0	0.2
Fragilaria capucina	3	+									
Fragilaria construens	3	0.5	0.5	1.8	0.5	3.0	0.9	+	0.9	0.2	1.1
Fragilaria vaucheriae	2	22.2	30.9	27.4	23.3	19.5	6.1	18.1	1.9	5.5	6.2
Gomphonema olivaceum	3	39.3	17.8	25.2	32.2	16.0	12.9	15.6		4.8	6.0
Navicula cryptocephala[3]	1	0.5	1.8	1.1	2.6	3.3	0.2	[illegible]	+?	1.7	6.9
Navicula subminuscula	1			+			8.9				+
Nitzschia dissipata	3	8.4	3.5	10.8	9.1	12.1	7.7	7.[illegible]	7.2	10.3	13.1
Nitzschia frustulum	3	0.5	2.1	2.4	1.9	3.0	14.3	0.7	2.8	12.4	8.8
Nitzschia paleacea	2	1.2	3.5	7.7	5.4	8.1	6.1	7.4	4.9	1.9	4.4
Nitzschia perpusilla	2		0.9	1.1	1.4	0.5	18.5	+	4.6	1.9	1.4
Nitzschia romana	3	+	0.2		+	0.5	3.3	9.3	6.5	14.1	8.9
Synedra mazamaensis	3	0.5	5.8	1.3	0.5	1.4		+	2.5	0.5	0.5
Synedra ulna	1	1.4	4.2	0.9	3.0	2.3	0.2	1.4	+	0.2	0.7

Table 20. Continued

	L-B Group	CFR 4 Mi. Below Champion	CFR at Huson	CFR at Lozeau	CFR Near St. Regis	Flathead River Near Mouth	CFR at Plains	CFR Above T. Falls Reservoir	CFR Below T. Falls Reservoir	CFR Below Noxon Reservoir	CFR Below Cabinet Gorge Res.
Species Counted:		35	28	33	27	39	32	42	39	52	40
Species Diversity		4.072	3.995	4.173	3.862	3.606	3.796	4.496	4.096	4.512	3.794
L-B Groups:											
1. Most Tolerant		9.1	6.0	14.4	13.2	2.0	16.3	15.8	8.9	11.7	5.9
2. More Tolerant		31.9	22.6	21.2	20.3	34.4	26.3	34.0	24.8	33.0	22.7
3. Sensitive		58.9	71.2	64.1	66.4	63.4	57.5	50.0	66.4	55.8	71.2
Major Species (%)[2] and L-B Group:											
Achnanthes minutissima	3	7.2	9.3	4.1	3.7	40.2	16.1	6.8	25.9	15.4	39.9
Cymbella affinis	3	6.8	12.8	5.5	5.6	3.7	8.2	2.5	1.9	4.0	4.0
Cymbella microcephala	2					4.5	0.3	0.8	0.6		+
Cymbella minuta	2	14.2	4.9	5.5	1.9	2.0	2.3	0.6	0.3	1.7	1.1
Diatoma tenus	2	1.4	0.5	2.3	3.7	6.5	4.2	9.3	8.1	13.1	6.7
Epithemia sorex	3	1.2	1.6	0.7	0.9		0.3	0.8	0.6	0.6	1.1
Fragilaria capucina	3	+					+?	+		6.3	
Fragilaria construens	3	1.2	0.7	1.8	0.7	2.3	1.1	3.7	3.1	7.4	5.4
Fragilaria vaucheriae	2	6.8	5.1	1.6	1.4	12.5	16.4	11.3	8.6	6.0	5.9
Gomphonema olivaceum	3	11.7	5.6	8.5	4.2	0.8	5.9	7.1	1.7	1.1	0.5
Navicula cryptocephala[3]	1	7.2	4.9	11.9	8.8	0.8	11.6	7.6	3.6	0.6	1.1
Navicula subminuscula	1										
Nitzschia dissipata	3	13.0	12.8	14.7	15.8	1.7	11.0	8.8	11.7	3.7	1.3
Nitzschia frustulum	3	1.6	8.8	4.6	11.4	0.6	0.6	0.8	1.1	1.1	0.8
Nitzschia paleacea	2	4.2	3.5	7.8	10.4	+	2.0	6.2	3.3	0.3	1.1
Nitzschia perpusilla	2	2.1	4.6	1.8	1.6		0.3	1.4	0.8		
Nitzschia romana	3	8.4	11.1	10.8	15.1	0.8	5.4	2.5	2.5	0.3	0.3
Synedra mazamaensis	3	1.2	0.2	0.5	+		0.3	0.6	0.8	+	0.3
Synedra ulna	1	0.7	0.7	2.3	4.4	0.6	4.8	7.9	5.3	9.1	3.8

1. Range of cells 350–452
2. + indicates species present but not counted
3. Predominantly variety veneta.

Table 21. Relative abundance and estimated rank by volume (in parentheses) of diatoms and genera of soft-bodied algae in composite samples of periphyton from natural substrates, March 5-9, 1984. R=rare; C=common; VC=very common; A=abundant; VA = very abundant; VVA = very very abundant.

	CFR at Turah	Blackfoot River near mouth	CFR Blw. Milltown Dam	CFR Above Missoula	CFR Above Missoula WWTP	CFR Below Missoula WWTP	CFR at Shuffields	Bitterroot River Near Mouth	CFR at Harper Bridge	CFR 0.5 Mi. Blw. Champion
Green Algae (Chlorophyta)										
Ankistrodesmus										
Cladophora			R(5)		R	R	R(4)	VC(3)	R	
Closterium								R		
Coelastrum										
Cosmarium										
Mougeotia										
Oedogonium						R				
Pediastrum										
Scenedesmus						R		R		
Spirogyra										
Staurastrum										
Stigeoclonium	R	R(3)				C(5)	R			R
Ulothrix	VC(2)	C(2)	C(3)	VC(3)	VC(3)	C(4)	C(3)	C(5)	C(4)	C(3)
Golden-Brown Algae (Chrysophyta)										
Dinobryon										
Hydrurus	VA(1)	R	A(2)	VA(1)	A(2)	C(3)	C(2)	R	VC(2)	C(2)
Tribonema								R		
Diatoms (Bacillariophyta)	VC(3)	VVA(1)	VA(1)	VA(2)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)
Red Algae (Rhodophyta)										
Audouinella	R	R	C(4)	R(4)	VC(4)	R	R			
Blue-green Algae (Cyanophyta)										
Chamaesiphon								VC(6)		
Chroococcus										
Lyngbya							R			
Oscillatoria		R	R(7)	R		VA(2)	C(5)	VA(2)	VC(3)	C(4)
Phormidium	R	R	C(6)	R	C(5)	A(6)		A(4)	C(5)	R
Rivularia		R			R					
Tolypothrix										

Table 21.

	CFR at Huson	CFR at Ninemile	CFR at Alberton	CFR at Tarkio	CFR at Lozeau	CFR at Superior	CFR at St. Regis	CFR Above Flathead R.
Green Algae (Chlorophyta)								
Ankistrodesmus								
Cladophora		R(5)						R(7)
Closterium							R	
Coelastrum							R	
Cosmarium							R	
Mougeotia							R	
Oedogonium								
Pediastrum								R
Scenedesmus			R		R		R	
Spirogyra								
Staurastrum								R
Stigeoclonium	R	R			R	C(5)	C(6)	C(6)
Ulothrix	R(4)	C(4)	C(4)	R	C(4)	VC(2)	VC(2)	A(2)
Golden-Brown Algae (Chrysophyta)								
Dinobryon								
Hydrurus	A(2)		VC(2)	A(2)	VC(3)	C(3)	VC(5)	VC(3)
Tribonema								
Diatoms (Bacillariophyta)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)
Red Algae (Rhodophyta)								
Audouinella		R	R		C(5)	R	R	C(5)
Blue-green Algae (Cyanophyta)								
Chamaesiphon								
Chroococcus						VC(7)		VA(4)
Lyngbya								
Oscillatoria	C(3)	VC(2)	C(5)		A(2)	VC(4)	VC(3)	R
Phormidium	C(5)	A(3)	A(3)		VC(6)	C(6)	A(4)	R
Rivularia			R					
Tolypothrix					C(7)			

Table 21.

	Flathead River Near Mouth	CFR at Plains	CFR Above T. Falls Reservoir	CFR Below T. Falls Dam	CFR Below Noxon Dam
Green Algae (Chlorophyta)					
Ankistrodesmus	R		R	R	
Cladophora					
Closterium	R		R		R
Coelastrum					
Cosmarium				R	
Mougeotia	R		R(7)		
Oedogonium			R(6)		R
Pediastrum		R		R	
Scenedesmus			R		
Spirogyra			C(3)	R	C(4)
Staurastrum		R	C		
Stigeoclonium	C(2)	R	R(8)	C(4)	
Ulothrix	R(3)	VC(3)	VC(2)	VC(2)	A(2)
Golden-Brown Algae (Chrysophyta)					
Dinobryon	R				
Hydrurus		A(2)	R(4)		
Tribonema					
Diatoms (Bacillariophyta)	VC(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)
Red Algae (Rhodophyta)					
Audouinella			R(5)	VC(3)	R
Blue-green Algae (Cyanophyta)					
Chamaesiphon					
Chroococcus				R	R
Lyngbya					C(5)
Oscillatoria	R	C(4)	R		A(3)
Phormidium					C(6)
Rivularia					
Tolypothrix					

Table 21. Relative abundance and estimated rank by volume (in parentheses) of diatoms and genera of soft-bodied algae in composite samples of periphyton from natural substrates, July 31 to August 3, 1984. R=rare; C=common; VC=very common; A=abundant; VA = very abundant; VVA = very very abundant.

	CFR at Turah	Blackfoot River near mouth	CFR Blw. Milltown Dam	CFR Above Missoula	CFR Above Missoula WWTP	CFR Below Missoula WWTP	CFR at Shuffields	Bitterroot River Near Mouth	CFR at Harper Bridge	CFR 0.5 Mi. Blw. Champion
Green Algae (Chlorophyta)										
Ankistrodesmus										
Botryococcus		R								
Bulbochaete										
Cladophora	C(2)		VC(2)	VC(3)	C(2)	R(6)	C(3)	C(3)	C(2)	C(3)
Closterium	R	R(8)	R(7)		R(7)	R(8)	R(9)	R(8)		R(10)
Cosmarium	R	R(9)	R(8)	R(10)	R(8)	R(10)	R(10)	R(9)	C(7)	C(7)
Gongrosira		R								
Mougeotia										
Nephrocytium										
Oedogonium										
Pediastrum		R				R(9)				
Pseudoulvella										
Scenedesmus		R		R(11)	R(9)	R(11)	C(8)	C(7)	C(8)	C(8)
Spirogyra		VC(2)								
Staurastrum		R								
Stigeoclonium	VC(4)	C(5)	C(4)	A(4)	R(5)	A(1)	VC(4)	C(4)	VC(3)	A(2)
Ulothrix	C(5)		R(6)	R(6)			C(6)	C(6)	R(5)	R(6)
Golden-brown Algae (Chrysophyta)										
Hydrurus			R(5)	R(5)		R(5)	C(2)			
Diatoms (Bacillariophyta)	VA(1)	VC(1)	VA(1)	VVA(1)	VA(1)	VA(2)	VA(1)	VA(1)	VA(1)	VVA(1)
Red Algae (Rhodophyta)										
Audouinella	VC(3)	C(6)	A(3)	A(2)	VC(3)	R(7)	VC(5)		R(6)	R(9)
Lemanea		C(3)								
Blue-green Algae (Cyanophyta)										
Calothrix	R	R		R(9)	C(4)					
Coelosphaerium										
Dactylococcopsis							R(13)			R(11)
Dichothrix										
Merismopedia										
Nostoc		R(10)			R(6)					
Oscillatoria	R	C(7)		R(8)		A(3)	C(7)	A(2)	VC(4)	VC(4)
Phormidium	R	R		C(7)		A(4)	R(11)	VC(5)		VC(5)
Rivularia		VC(4)					R(12)			
Tolypothrix	R									

Table 21. Continued

	CFR 4 Mi. Blw. Champion	CFR at Huson	CFR at Lozeau	CFR near St. Regis	Flathead River Nr. Mouth	CFR at Plains	CFR Abv. T. Falls Reservoir	CFR Blw. T. Falls Dam	CFR Blw. Noxon Dam	CFR Blw. Cabinet Gorge Dam
Green Algae (Chlorophyta)										
Ankistrodesmus								R		
Botryococcus										
Bulbochaete					VC(3)					
Cladophora	C(3)	C(4)	R(5)		R(9)		R(9)		R(3)	C(2)
Closterium		R(9)		C(5)	R(13)	C(6)	C(6)	C(4)	R(8)	
Cosmarium	R(9)	C(6)	C(4)	C(6)	R(14)	C(7)	VC(4)	C(5)		
Gongrosira										
Mougeotia					R(10)	VC(3)	C(3)	R(9)	R(5)	
Nephrocytium					R					
Oedogonium	R(6)				VC(2)		R(12)	R(8)	R(4)	
Pediastrum	R(11)					R(12)	R	R(15)	R(10)	
Pseudoulvella					R(12)					
Scenedesmus	C(8)	C(8)	C(3)	C(7)	C(8)	C(9)	VC(10)	VC(6)	C(6)	
Spirogyra					C(4)			R(7)	A(1)	A(1)
Staurastrum			R			R(14)	R	R		
Stigeoclonium	VC(2)	A(2)	R	VA(1)	R(11)	A(2)	VA(1)	VC(3)		R(6)
Ulothrix	C(4)					R(11)	R(13)			
Golden-brown Algae (Chrysophyta)										
Hydrurus										
Diatoms (Bacillariophyta)	VVA(1)	VVA(1)	VC(2)	A(2)	VC(6)	VA(1)	A(2)	A(1)	A(2)	C(4)
Red Algae (Rhodophyta)										
Audouinella	R(10)	R(10)	R	VC(4)		C(4)				
Lemanea										
Blue-green Algae (Cyanophyta)										
Calothrix		C(7)		R(8)		R(13)	C(8)			
Coelosphaerium					R			R	R(12)	
Dactylococcopsis	R(12)	R(11)	R	R(10)		R(15)	C(11)	C(14)		C(9)
Dichothrix					VC(5)		[illegible]	A(2)	R(9)	R(5)
Merismopedia	R(13)							R		
Nostoc					A(1)					VC(3)
Oscillatoria	VC(5)	VC(5)	R(6)		C(7)	R(8)	R	R(11)	R(7)	R(7)
Phormidium	C(7)	A(3)		R(9)		R(10)		R(12)		R(8)
Rivularia			A(1)	A(3)			C(7)	R(13)	R(11)	
Tolypothrix						C(5)		R(10)		

Table 21. Relative abundance and estimated rank by volume (in parentheses) of diatoms and genera of soft-bodied algae in composite samples of periphyton from natural substrates, October 30 to November 2, 1984. R=rare; C=common; VC=very common; A=abundant; VA = very abundant; VVA = very very abundant.

	CFR at Turah	Blackfoot River near mouth	CFR Blw. Milltown Dam	CFR Above Missoula	CFR Above Missoula WWTP	CFR Below Missoula WWTP	CFR at Shuffields	Bitterroot River Near Mouth	CFR at Harper Bridge	CFR 0.5 Mi. Blw. Champion
Green Algae (Chlorophyta)										
Ankistrodesmus								R(1)		
Chaetophora										
Cladophora	C(3)		C(4)	R(5)	C(2)		C(4)	C(3)	C(5)	C(3)
Closterium	R		R	R(10)	R(9)	R(8)	R(10)	R(10)		
Coelastrum								R(12)		
Cosmarium	R(6)		R		C(6)	R(10)	R(11)			R
Gloeocystis						R(11)				
Mougeotia										
Oedogonium				R(8)		C(5)				
Pediastrum		R(8)		R(9)		R(9)				R
Scenedesmus	R	C(7)	C(6)	C(6)	C(7)	C(7)	C(8)	C(8)	C(6)	C(7)
Sphaerocystis										
Spirogyra		VC(2)					R(7)			
Staurastrum	R	R(9)	R					C(7)	R(8)	C(6)
Stigeoclonium	C(5)	C(4)	R(7)	VC(3)	C(4)	VC(3)	VC(3)	R(9)	VC(2)	VC(2)
Ulothrix	VC(4)	VC(3)	C(5)	C(4)	R(5)	C(4)	VC(2)	C(4)	C(4)	C(4)
Zygnema										
Golden-brown Algae (Chrysophyta)										
Hydrurus			R							
Vaucheria			R(9)							
Diatoms (Bacillariophyta)	VVA(1)	VA(1)	VA(1)	VA(1)	VA(1)	VA(2)	VVA(1)	VVA(1)	VVA(1)	VVA(1)
Red Algae (Rhodophyta)										
Audouinella	VA(2)	C(5)	VC(3)	A(2)	VC(3)					R
Blue-green Algae (Cyanophyta)										
Calothrix									R(9)	
Chroococcus										
Dactylococcopsis		VC(6)	C	C(7)	C(8)	R(12)	C(9)	A(5)	C(7)	C(8)
Dichothrix										
Nostoc			VC(2)							
Oscillatoria		R(10)				VA(1)	C(6)	VC(2)	VC(3)	C(5)
Phormidium						C(6)	VC(5)	C(5)		
Rivularia			R(8)				R(12)			
Tolypothrix										

Table 21. Continued

	CFR 4 Mi. Blw. Champion	CFR at Huson	CFR at Lozeau	CFR near St. Regis	Flathead River Nr. Mouth	CFR at Plains	CFR Abv. T. Falls Reservoir	CFR Blw. T. Falls Dam	CFR Blw. Noxon Dam	CFR Blw. Cabinet Gorge Dam
Green Algae (Chlorophyta)										
Ankistrodesmus										
Chaetophora				C(3)		R(12)				
Cladophora	C(3)	C(3)	R(5)			R(9)	R(6)		R(5)	R(11)
Closterium	R(8)	R(9)	R(10)	R(8)	R(10)		R(13)	R(8)	R(12)	R(9)
Coelastrum					R		R(15)		R	R(14)
Cosmarium	R(11)	R(13)	R(12)	R(10)	R(12)			R(9)		R(12)
Gloeocystis										
Mougeotia					A(3)	R(11)	R(10)	R(6)	R(9)	C(4)
Oedogonium	R(7)	R(8)			R(8)	R(10)	C(5)		R(11)	C(5)
Pediastrum		R(12)	R(11)	R(12)	R	R(14)			R	R(10)
Scenedesmus	C(9)	C(7)	VC(4)	C(5)	C(9)	C(8)	VC(8)	VC(4)	C(6)	VC(7)
Sphaerocystis									C(7)	R(13)
Spirogyra					VC(5)	VC(2)	R(7)	C(2)		VC(3)
Staurastrum	C(6)	C(6)	C(3)	R(9)	R(11)		R(14)			
Stigeoclonium	VC(2)	VC(2)	R(7)	R(7)			C(4)			
Ulothrix	C(4)	C(4)	C(2)	R(6)	VC(6)	VC(3)	VC(2)	C(3)	R(10)	
Zygnema					R					
Golden-brown Algae (Chrysophyta)										
Hydrurus				R(11)						
Vaucheria										
Diatoms (Bacillariophyta)	VVA(1)	VVA(1)	VA(1)	VA(1)	A(1)	VA(1)	VVA(1)	VVA(1)	A(1)	VA(1)
Red Algae (Rhodophyta)										
Audouinella		R(10)								
Blue-green Algae (Cyanophyta)										
Calothrix			R(14)							
Chroococcus					R	R(15)			R	
Dactylococcopsis	C(10)	C(11)	VC(6)	VC(4)	C	VC(7)	C(11)	VC(5)	VC(8)	VC(8)
Dichothrix					VC(4)	C(4)	VC(3)		C(3)	C(6)
Nostoc					A(2)	C(6)				A(2)
Oscillatoria	C(5)	C(5)	R(9)		C(7)	C(5)	R([illegible])	R(7)	C(4)	
Phormidium			R(13)							
Rivularia			C(8)	VC(2)		R(13)	R([illegible])			
Tolypothrix									VC(2)	

Table 21. Relative abundance and estimated rank by volume (in parentheses) of diatoms and genera of soft-bodied algae in composite samples of periphyton from natural substrates, March 18-21, 1985. R=rare; C=common; VC=very common; A=abundant; VA = very abundant; VVA = very very abundant.

	CFR at Turah	Blackfoot River near mouth	CFR Blw. Milltown Dam	CFR Above Missoula	CFR Above Missoula WWTP	CFR Below Missoula WWTP	CFR at Shuffields	Bitterroot River Near Mouth	CFR at Harper Bridge	CFR 0.5 Mi. Blw. Champion
Green Algae (Chlorophyta)										
Ankistrodesmus										R(9)
Cladophora	R(6)		R(5)		R(6)		C(4)	R(5)	R(6)	R(6)
Closterium					R(7)			R(7)		C(4)
Cosmarium	R(9)								R	
Cylindrocapsa										
Mougeotia										
Oedogonium						R(6)			R(10)	R(7)
Pediastrum		R(9)								
Scenedesmus	R(10)	R(10)							R(9)	
Sphaerocystis										
Spirogyra		R(7)								
Staurastrum								C(6)	R	R(8)
Stigeoclonium	R(8)	R(6)	R(6)	R(5)	C(5)	C(5)	R(7)	C(4)	R(8)	
Ulothrix	VC(3)	C(3)	VC(3)	A(3)	C(4)	A(3)	A(2)	A(2)	VC(3)	VC(3)
Zygnema										
Golden-brown Algae (Chrysophyta)										
Hydrurus	A(2)	A(2)	A(2)	VC(2)	C(3)	VC(4)	VC(3)		C(4)	
Tribonema									R	
Diatoms (Bacillariophyta)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)
Red Algae (Rhodophyta)										
Audouinella	R(5)	R(5)	C(4)	C(4)	VC(2)	R(7)	R(6)		R(7)	
Blue-green Algae (Cyanophyta)										
Calothrix	R(7)		R(7)	R(8)						
Dactylococcopsis		C(8)						C(9)		
Dichothrix				R(7)						
Nostoc										
Oscillatoria	C(4)	C(4)				VA(2)	C(5)	VC(3)	A(2)	A(2)
Phormidium				R(6)	R(9)			R(8)	VC(5)	C(5)
Rivularia					R(8)		R(8)			
Tolypothrix										

Table 21. Continued

	CFR 4 Mi. Blw. Champion	CFR at Huson	CFR at Lozeau	CFR near St. Regis	Flathead River Nr. Mouth	CFR at Plains	CFR Abv. T. Falls Reservoir	CFR Blw. T. Falls Dam	CFR Blw. Noxon Dam	CFR Blw. Cabinet Gorge Dam
Green Algae (Chlorophyta)										
Ankistrodesmus										
Cladophora		C(4)	R(4)	R(6)		R(5)		R(4)	R(9)	
Closterium	R(6)	R(9)					R(8)	R(7)	R(12)	
Cosmarium	R(7)		R(7)			R(7)				
Cylindrocapsa									VC(4)	VC(3)
Mougeotia					R(6)		R(4)		R(10)	
Oedogonium		R(7)			R(7)	R(6)		R(5)	R(11)	R(5)
Pediastrum	R(8)		R(6)				R(9)		R	
Scenedesmus					R(10)		C(10)			
Sphaerocystis	R(9)									
Spirogyra									R(7)	
Staurastrum		R(10)		R(9)					R	
Stigeoclonium		C(5)		C(4)	R(8)					R(7)
Ulothrix	VC(2)	A(2)	C(3)	C(3)	C(4)	C(3)	R(5)	R(6)	R	VC(4)
Zygnema									C(5)	
Golden-brown Algae (Chrysophyta)										
Hydrurus	C(4)					A(2)				
Tribonema										
Diatoms (Bacillariophyta)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	A(1)	VVA(1)	VVA(1)	VA(1)	VA(1)	A(2)
Red Algae (Rhodophyta)										
Audouinella	R(5)		R(5)	C(5)		C(4)	C(3)	C(3)		
Blue-green Algae (Cyanophyta)										
Calotrhix										
Dactylococcopsis				R(10)		R(8)			R	R(8)
Dichothrix					VC(2)		C(2)	VC(2)	VC(3)	R(6)
Nostoc					VC(3)				C(8)	
Oscillatoria	VC(3)	A(3)	VA(2)	VC(2)	C(5)		R(6)		A(2)	A(1)
Phormidium		C(6)			R(9)					
Rivularia	R(10)	R(8)		R(8)			R(7)			
Tolypothrix				R(7)					C(6)	

Table 21. Relative abundance and estimated rank by volume (in parentheses) of diatoms and genera of soft-bodied algae in composite samples of periphyton from natural substrates, July 29 to August 1, 1985. R=rare; C=common; VC=very common; A=abundant; VA = very abundant; VVA = very very abundant.

	CFR at Turah	Blackfoot River near mouth	CFR Blw. Milltown Dam	CFR Above Missoula	CFR Above Missoula WWTP	CFR Below Missoula WWTP	CFR at Shuffields	Bitterroot River Near Mouth	CFR at Harper Bridge	CFR 0.5 Mi. Blw. Champion
Green Algae (Chlorophyta)										
Ankistrodesmus	C(7)			C(7)	C(6)	R	R		R	
Bulbochaete										
Cladophora	VA(2)		VA(2)	VA(2)	A(2)	C(5)	C(5)	VA(2)	C(5)	VC(2)
Closterium	R	R	C(5)	C(4)	R		R	R	R	C(7)
Cosmarium	VC(4)	R	A(3)	A(3)	VC(3)	A(4)	A(2)	R	VC(6)	VC(4)
Gongrosira								VC(4)		
Hormidium	R	R	R							
Mougeotia		R								
Oedogonium						C(6)				
Oocystis										
Pediastrum				R	R	R	R	R	C(7)	R
Planktosphaeria								R	C(8)	R
Scenedesmus	C(6)	R	C(6)	C(6)	C(5)	C(7)	C(8)	A(3)	VC(4)	C(6)
Selenastrum								R		
Spirogyra		A(2)					VC(4)			
Stigeoclonium		R				VA(2)	A(3)		A(2)	VC(5)
Ulothrix		R							R	
Westella	R		R							
Zygnema										
Diatoms (Bacillariophyta)	VVA(1)	VA(1)	VVA(1)	VVA(1)	VA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)	VVA(1)
Red Algae (Rhodophyta)										
Audouinella				R	R					
Blue-greenAlgae (Cyanophyta)										
Coelosphaerium										
Merismopedia										
Nostoc	A(3)	C(4)	R							
Oscillatoria		C(5)				A(3)	VC(6)	C(5)	VC(3)	A(3)
Phormidium	R									
Rivularia	VC(5)	VC(3)	C(4)	C(5)	VC(4)		VC(7)			
Romeria										
Tolypothrix										

Table 21. Continued

	CFR 4 Mi. Blw. Champion	CFR at Huson	CFR at Lozeau	CFR near St. Regis	Flathead River Nr. Mouth	CFR at Plains	CFR Abv. T. Falls Reservoir	CFR Blw. T. Falls Dam	CFR Blw. Noxon Dam	CFR Blw. Cabinet Gorge Dam
Green Algae (Chlorophyta)										
Ankistrodesmus				C(6)			C(5)	C(3)	C(8)	VC(5)
Bulbochaete					C(5)					
Cladophora	VC(2)	VC(2)	C(3)	R		VC(2)			R	
Closterium		R	C(5)	C(5)						R
Cosmarium	VC(4)	VC(3)	VC(4)	VC(4)		C(6)		R		C(11)
Gongrosira			R							
Hormidium										
Mougeotia					R				C(7)	C(8)
Oedogonium							R		R	C(4)
Oocystis										R
Pediastrum	R	R			R			R	R	
Planktosphaeria				R					R	
Scenedesmus	C(6)	C(5)	C(6)	VC(3)	C(6)	C(5)	VC(4)	VC(2)	C(9)	C(6)
Selenastrum		R								
Spirogyra						C(3)			A(2)	VC(3)
Stigeoclonium	VC(3)	VC(4)			A(2)		VC(3)		R	A(2)
Ulothrix										
Westella										
Zygnema									VC(4)	
Diatoms (Bacillariophyta)	VVA(1)	VVA(1)	VVA(1)	VA(1)	VC(3)	VA(1)	A(1)	A(1)	A(1)	VA(1)
Red Algae (Rhodophyta)										
Audouinella										
Blue-greenAlgae (Cyanophyta)										
Coelosphaerium										R
Merismopedia							R	R		
Nostoc					A(1)				C(5)	C(7)
Oscillatoria	C(5)								VC(3)	C(9)
Phormidium										
Rivularia			A(2)	A(2)	VC(4)	VC(4)	A([illegible])			C(10)
Romeria									VC(6)	
Tolypothrix									R	R

Table 22. Chlorophyll and biomass data for non-quantitative periphyton samples collected from natural substrates (stream cobbles).

SITE	DATE	CHLOROPHYLL a / PHEOPHYTIN a	AUTOTROPHIC INDEX	STABILITY INDEX
01 TURAH	3/5/84	1.62	180.3	2.71
	8/3/84	1.63	369.3	2.29
	11/2/84	1.55	835.4	2.55
02 BLACKFOOT	3/5/84	1.52	656.4	3.54
	8/3/84	1.68	1535.5	2.48
	11/2/84	1.54	1144.9	2.73
04 BLW MILLTOWN	3/5/84	1.57	357.5	3.78
	8/3/84	1.64	507.7	2.30
	11/2/84	1.54	1355.4	2.84
05 ABV. MISSOULA	3/5/84	1.58	919.3	3.96
	8/3/84	1.50	610.5	2.59
	10/29/84	1.50	800.5	2.35
06 ABV. STP	3/5/84	1.40	944.6	4.54
	7/31/84	1.52	589.8	2.38
	10/29/84	1.58	1712.8	2.63
08 BLW. STP	3/5/84	1.36	388.0	3.44
	7/31/84	1.62	183.6	2.04
	10/29/84	1.51	257.9	2.16
09 SHUFFIELDS	3/5/84	1.48	252.6	3.70
	7/31/84	1.50	562.4	2.80
	10/30/84	1.52	249.5	2.73
10 BITTERROOT	3/5/84	1.56	360.8	2.66
	7/30/84	1.41	421.9	2.92
	10/30/84	1.42	480.8	2.63
11 HARPER	3/6/84	1.38	360.4	4.35
	7/30/84	1.43	375.7	2.84
	10/30/84	1.49	597.8	2.95
13 MARCURE	3/6/84	1.55	279.1	3.15
	7/31/84	1.52	522.1	2.94
	10/30/84	1.46	283.7	2.77
14 FRENCHTOWN	7/31/84	1.45	426.3	3.10
	10/30/84	1.45	348.9	2.97
15 HUSON	3/6/84	1.62	209.3	2.94
	7/31/84	1.41	286.4	2.95
	10/30/84	1.28	255.4	2.99

Table 22. (Continued)

SITE	DATE	CHLOROPHYLL a / PHEOPHYTIN a	AUTOTROPHIC INDEX	STABILITY INDEX
16 NINEMILE	3/7/84	1.58	223.2	3.51
17 ALBERTON	3/7/84	1.52	307.3	3.86
18 TARKIO	3/7/84	1.62	155.0	3.84
19 LOZEAU	3/7/84	1.45	321.8	3.87
	7/31/84	1.56	617.0	2.60
	10/30/84	1.55	497.3	3.01
20 SUPERIOR	3/7/84	1.54	248.2	3.59
21 ST. REGIS	3/8/84	1.51	326.1	3.57
	8/1/84	1.72	1691.9	2.92
	10/31/84	1.57	1478.7	3.04
22 ABOVE FLATHEAD	3/8/84	1.62	265.9	3.36
23 FLATHEAD	8/1/84	1.58	1651.0	3.13
	10/31/84	1.60	1445.6	2.80
24 PLAINS	3/8/84	1.53	843.0	4.62
	8/1/84	1.46	1174.8	2.85
	10/31/84	1.56	1539.9	2.96
25 ABV.THOMPSON FALLS	3/8/84	1.41	1242.2	4.87
	8/1/84	1.46	1037.6	2.55
	10/31/84	1.47	756.6	2.93
27 BLW.THOMPSON FALLS	3/9/84	1.48	1977.5	6.70
	8/2/84	1.62	1373.6	2.88
	11/1/84	1.44	875.8	3.86
29 BELOW NOXON	3/9/84	1.56	509.9	3.94
	8/2/84	1.59	620.6	2.69
	11/1/84	1.54	2857.3	2.95
31 BLW. CABINET GORGE	11/1/84	1.62	580.5	2.79

Table 23. Chlorophyll and biomass data for periphyton collected on artificial substrates (glass slides) during October, 1983.

	SITE	DATE (days exposed)		CHLORO. a (mg/m2)	CHLORO. a ACCRUAL (mg/m2/day)	CHLORO. a / PHEO. a	BIOMASS (mg/m2)	BIOMASS ACCRUAL (mg/m2/day)	AUTOTROPH. INDEX	STABILITY INDEX
11	HARPER	10/5-10/27/83 (22 days)	mean	73.47	3.34	1.73	4806.8	218.5	66.2	2.34
			(rep. 1)	(68.53)	(3.12)	(1.71)	(5085.7)	(231.2)	(74.2)	(—)
			2)	(68.03)	(3.09)	(1.82)	(3824.8)	(173.8)	(56.2)	(—)
			3)	(108.37)	(4.93)	(1.71)	(6681.9)	(303.7)	(61.7)	(—)
			4)	(67.22)	(3.06)	(1.71)	(4373.3)	(198.8)	(65.0)	(2.34)
			5)	(55.22)	(2.51)	(1.68)	(4068.6)	(184.9)	(73.7)	(2.33)
15	HUSON	10/5-10/27/83 (22 days)	mean	95.00	4.32	1.73	5089.5	231.3	54.5	2.35
			(rep. 1)	(97.29)	(4.42)	(1.77)	(5161.9)	(234.6)	(53.0)	(—)
			2)	(88.92)	(4.04)	(1.77)	(4076.2)	(185.3)	(45.8)	(—)
			3)	(101.23)	(4.60)	(1.74)	(5280.0)	(240.0)	(52.2)	(—)
			4)	(112.38)	(5.12)	(1.65)	(5398.1)	(245.4)	(48.0)	(2.35)
			5)	(75.20)	(3.42)	(1.72)	(5531.4)	(251.4)	(73.6)	(2.34)

Table 23. Chlorophyll and biomass data for periphyton collected on artificial substrates (glass slides) during July and August, 1984.

	SITE	DATE (days exposed)		CHLORO. a (mg/m2)	CHLORO. a ACCRUAL (mg/m2/day)	CHLORO. a / PHEO. a	BIOMASS (mg/m2)	BIOMASS ACCRUAL (mg/m2/day)	AUTOTROPH. INDEX	STABILITY INDEX
01	TURAH	7/26-8/10/84 (15.2 days)	mean	4.153	.273	1.64	1112.3	73.1	270.3	2.20
			(rep. 1)	(4.756)	(.312)	(1.60)	(1097.1)	(72.1)	(230.6)	(2.23)
			2)	(4.412)	(.290)	(1.61)	(1093.3)	(71.9)	(247.7)	[illegible]
			3)	(3.953)	(.260)	(1.65)	(1142.8)	(75.1)	(289.0)	(2.20)
			4)	(4.030)	(.265)	(1.65)	[illegible]	(73.6)	(277.8)	(2.17)
			5)	(3.614)	(.237)	(1.69)	(1108.5)	(72.9)	(306.6)	(2.16)
06	ABV. STP	7/26-8/9/84 (14.2 days)	mean	2.209	.155	1.59	873.1	61.5	395.1	2.23
			(rep. 1)	(2.214)	(.155)	(1.58)	(880.0)	(61.9)	(397.3)	(2.26)
			2)	(2.128)	(.149)	(1.59)	(792.3)	(55.8)	(372.2)	(2.26)
			3)	(2.216)	(.156)	(1.59)	(1055.2)	(74.3)	(476.1)	(2.18)
			4)	(2.216)	(.156)	(1.60)	(792.3)	(55.8)	(357.5)	(2.20)
			5)	(2.270)	(.159)	(1.58)	(845.7)	(59.5)	(372.4)	(2.27)
08	BLW. STP	7/25-8/9/84 (14.8 days)	mean	11.328	.765	1.58	1948.1	131.0	212.7	2.07
			(rep. 1)	(12.489)	(.844)	(1.52)	(2354.2)	(156.1)	(188.4)	(2.12)
			2)	(27.830)	(1.880)	(1.56)	(3413.3)	(230.6)	(122.6)	(2.04)
			3)	(8.777)	(.593)	(1.59)	(1980.9)	(133.8)	(225.6)	(2.00)
			4)	(4.425)	(.299)	(1.58)	(1180.9)	(79.8)	(266.8)	(2.09)
			5)	(3.119)	(.211)	(1.63)	(811.4)	(54.8)	(260.0)	(2.12)
09	SHUFFIELDS	7/25-8/9/84 (14.8 days)	mean	9.969	.673	1.53	1833.8	123.8	185.2	2.06
			(rep. 1)	(5.277)	(.356)	(1.44)	(921.9)	(62.2)	(174.6)	(2.11)
			2)	(7.885)	(.532)	(1.51)	(1462.8)	(98.8)	(185.5)	(2.05)
			3)	(7.987)	(.539)	(1.52)	(1676.1)	(113.2)	(209.8)	(2.03)
			4)	(10.905)	(.736)	(1.57)	(1950.4)	(131.7)	(178.8)	(2.12)
			5)	(17.793)	(1.202)	(1.61)	(3158.0)	(213.3)	(177.4)	(1.99)
11	HARPER	7/25-8/10/84 (14.2 days)	mean	12.466	.878	1.57	1849.1	130.2	150.6	2.23
			(rep. 1)	(9.826)	(.692)	(1.59)	(1862.8)	(131.2)	(189.5)	(2.27)
			2)	(12.058)	(.849)	(1.68)	(1733.3)	(122.1)	(143.7)	(2.20)
			3)	(13.513)	(.952)	(1.58)	(1817.1)	(128.0)	(134.4)	(2.22)
			4)	(14.137)	(.996)	(1.56)	(1893.3)	(133.3)	(133.9)	(2.25)
			5)	(12.795)	(.901)	(1.54)	(1939.0)	(136.5)	(151.5)	(2.20)
13	MARCURE	7/25/-8/10/84 (15.8 days)	mean	18.363	1.162	1.68	2246.0	142.1	127.4	2.11
			(rep. 1)	(16.564)	(1.048)	(1.64)	(2140.9)	(135.5)	(129.2)	(2.18)
			2)	(12.831)	(.812)	(1.71)	(1798.0)	(113.8)	(140.1)	(2.05)
			3)	(31.778)	(2.011)	(1.70)	(3211.4)	(203.2)	(101.0)	(2.10)
			4)	(14.987)	(.948)	(1.69)	(2121.9)	(134.2)	(141.5)	(2.14)
			5)	(15.654)	(.990)	(1.68)	(1958.0)	(123.9)	(125.0)	(2.07)

Table 23. (Continued)

SITE	DATE (days exposed)		CHLORO. a (mg/m2)	CHLORO. a ACCRUAL (mg/m2/day)	CHLORO. a / PHEO. a	BIOMASS (mg/m2)	BIOMASS ACCRUAL (mg/m2/day)	AUTOTROPH. INDEX	STABILITY INDEX
15 HUSON	7/25-8/10/84 (16.0 days)	mean	11.312	.707	1.64	2012.9	101.7	178.7	2.27
		(rep. 1)	(11.149)	(.696)	(1.63)	(1927.6)	(120.4)	(172.8)	(2.22)
		2)	(11.001)	(.687)	(1.64)	(1847.6)	(115.4)	(167.9)	(2.26)
		3)	(9.208)	(.575)	(1.63)	(1870.4)	(116.9)	(203.1)	(2.30)
		4)	(12.273)	(.767)	(1.65)	(1923.8)	(120.2)	(156.7)	(2.26)
		5)	(12.929)	(.808)	(1.66)	(2495.2)	(155.9)	(192.9)	(2.31)
20 SUPERIOR	7/25-8/9/84 (14.8 days)	mean	7.369	.498	1.57	1628.1	110.0	224.8	2.17
		(rep. 1)	(10.449)	(.706)	(1.53)	(2076.1)	(140.2)	(198.6)	(2.13)
		2)	(6.052)	(.408)	(1.51)	(1424.7)	(96.2)	(235.3)	(2.18)
		3)	(7.214)	(.487)	(1.63)	(1340.9)	(90.7)	(185.8)	(2.26)
		4)	(6.350)	(.429)	(1.58)	(1775.2)	(119.9)	(279.5)	(2.16)
		5)	(6.782)	(.458)	(1.59)	(1523.8)	(102.9)	(224.6)	(2.14)
24 PLAINS	7/24-8/9/84 (15.5 days)	mean	5.930	.382	1.61	3385.1	218.4	718.7	2.31
		(rep. 1)	(12.254)	(.790)	(1.59)	(3352.3)	(216.2)	(273.5)	(2.26)
		2)	(4.810)	(.310)	(1.66)	(3440.0)	(221.9)	(715.0)	(2.36)
		3)	(2.903)	(.187)	(1.60)	(3649.5)	(235.4)	(1256.9)	(2.33)
		4)	(4.702)	(.303)	(1.60)	(3329.5)	(214.8)	(707.9)	(2.27)
		5)	(4.928)	(.317)	(1.62)	(3154.2)	(203.5)	(640.0)	(2.32)

2. Deep-water Monitoring: Reservoir and River Pools

a. Rationale

As in all flowing water environments, the kinds and diversity of organisms living on or in the bottom material of the mainstem impoundements and deep river pools can provide much information about the relative health of the environment. Analysis of benthic organisms will allow assessment of environmental conditions in the bottom sediments, including the biological effects of any heavy metals and organic deposits and the presence or absence of dissolved oxygen.

b. Methods

The four mainstem impoundments and up to 11 river pools were sampled for biology during each seasonal monitoring run. Samples of benthic macroinvertebrates were brought up with a Petite Ponar Grab.

Sample collection and analysis methods and the analyzing laboratory are summarized in Table 24.

c. Results

Species identifications, counts, percentage distribution, and Shannon's species diversity values for each Petite Ponar Grab macroinvertebrate sample are given in Tables 16 and 17.

Table 24. Sample Collection and Analysis Methods for Deep-water and Open-water Biological Monitoring

Variable	Collection Method	Analytical Method	Laboratory
Benthic Macroinvertebrate Community Structure	Petite Ponar grab sample	Species identifications and counts made using numerous current taxonomic references.	C. Evan Hornig (contractor)
Phytoplankton Community Structure	Plankton tow sample described in Appendix B.	Species identifications and counts made using numerous current taxonomic references.	MDHES WQB
Phytoplankton Chlorophyll (mg/l)	Grab sample	Analysis technique described in Appendix B.	MDHES Chem Lab and WQB
Secchi Disc transparency (ft.)	————	On-site field measurement	Field personnel

3. Open-water monitoring

a. Rationale

Analysis of reservoir phytoplankton (suspended algae) species composition and abundance, yields much the same kind of information regarding environmental conditions in the reservoirs and its overall health as does the benthic macroinvertebrate samples. Analysis of phytoplankton chlorophyll concentrations in samples of reservoir water can be compared to ambient nutrient concentrations in order to assess eutrophication potential in the impoundments, according to criteria published by the Environmental Protection Agency.

b. Methods

Phytoplankton was collected seasonally from each of the reservoirs for taxonomic analysis, determination of concentration and chlorophyll content. Secchi disc transparency was also measured as an indication of depth of light penetration.

Sample collection methods and the analyzing laboratory are summarized in Table 24.

c. Results

Reservoir phytoplankton identifications, concentrations and chlorophyll measurements are presented in Tables 25 and 26. Secchi disc transparencies, corresponding weather and sky conditions and time of day are listed in Table 27.

Table 25. Density of viable algae cells in surface-water phytoplankton grab samples collected April 4-5, 1984.

Taxa	Number of Cells per Milliliter				
	Milltown Reservoir	Above T. Falls Reservoir	Thompson Falls Reservoir	Noxon Rapids Reservoir	Cabinet Gorge Reservoir
Green Algae (Chlorophyta)					
Ankistrodesmus		29		7	22
Oocystis		29			
Scenedesmus			29		
Euglenoid Algae (Euglenophyta)					
Euglena	36	7			
Golden-brown Algae (Chrysophyta)					
Dinobryon		15	138	36	72
Hydrurus foetidus	398				
H. foetidus statospores	36				
Diatoms (Bacillariophyta)					
Achnanthes	72	80	29		
Asterionella		36	7	7	
Cocconeis	22		29		7
Cyclotella	36	72	80		
Cymbella	239	174	145	22	7
Diatoma	15	123	123	65	7
Epithemia			7		
Eunotia		7			
Fragilaria		7			
Gomphoneis	7	7			
Gomphonema	413	94		15	15
Hannaea			7		
Melosira		58			7
Navicula	145	181	116		29
Nitzschia	181	377	275	51	43
Rhizosolenia		15	15	7	36
Stephanodiscus				15	36
Surirella	94	7			
Synedra	72	239	239	138	87
Tabellaria					116
unidentified centric diatoms		87	225	2,145	1,826
unidentified pennate diatoms	43	72	72	36	29
Blue-green Algae (Cyanophyta)					
Oscillatoria	72	435	51	326	
Microplankton		304	217	333	435
TOTAL VIABLE ALGAE	1,881	2,455	1,804	3,203	2,774
Dead Algae	674	732	761	297	420

Table 25. (Continued) Density of viable algae cells in surface-water phytoplankton grab samples grab samples collected July 24-26, 1984.

Taxa	Milltown Reservoir	Thompson Falls Reservoir	Noxon Rapids Reservoir	Cabinet Gorge Reservoir
	Number of Cells per Milliliter			
Green Algae (Chlorophyta)				
Ankistrodesmus		7	15	
Botryococcus	7			
Gloecystis			30	
Gonium			150	
Pediastrum	232			
Scenedesmus	45	30	60	30
Golden-brown Algae (Chrysophyta)				
Dinobryon				7
Diatoms (Bacillariophyta)				
Achnanthes	68	30		
Asterionella				45
Cocconeis	7			
Cymbella		22		
Diatoma	38	15		
Epithemia	15			
Fragilaria		15		22
Gomphonema	7	7		
Melosira				128
Meridion	7			
Nitzschia	120	360	45	52
Rhizosolenia			7	
Rhoicosphenia	7			
Synedra	68	60		
unidentified centric diatoms	45	180	232	248
unidentified pennate diatoms		52	38	22
Blue-green Algae (Cyanophyta)				
Dactylococopsis		330		
Miscellaneous Flagellated Algae				
Cryptomonas	7	22	7	
Peridinium				7
Microplankton	68	315	202	90
TOTAL VIABLE ALGAE	741	1,445	786	651
Dead Algae	525	360	173	187

Table 25. (Continued) Density of viable algae cells in surface-water phytoplankton grab samples collected October 25-26, 1984.

Taxa	Number of Cells per Milliliter				
	Milltown Reservoir	Thompson Falls Reservoir	Noxon Reservoir at Trout Cr.	Noxon Reservoir at Martin Cr.	Cabinet Gorge Reservoir
Green Algae (Chlorophyta)					
Ankistrodesmus	7	22	7	7	
Chlamydomonas	7	7			
Cosmarium		7			
Mougeotia		60			
Scenedesmus	30	22			
Golden-brown Algae (Chrysophyta)					
Dinobryon		7	15		
Diatoms (Bacillariophyta)					
Achnanthes	22				7
Amphora	15		7		
Asterionella				75	
Cocconeis			15		
Cymbella	7	7			
Diatoma	52	15			
Epithemia	22				
Fragiliaria	75		38	22	22
Navicula	22	15	7		7
Nitzschia	45	7	7	7	
Rhizosolenia	7				
Rhoicosphenia	7				
Stephanodiscus					7
Synedra	22		7		
unidentified centric diatoms	15	22	38	83	22
unidentified pennate diatoms	60	15	15		22
Blue-green Algae (Cyanophyta)					
Chroococcus		15			
Oscillatoria	60				
Miscellaneous Flagellated Algae					
Cryptomonas		7			
Microplankton	225	240	210	218	195
TOTAL VIABLE ALGAE	700	468	366	412	282
Dead Algae	405	112	112	22	97

Table 25. (Continued) Density of viable algae cells in surface-water phytoplankton grab samples collected March 25-26, 1985. Samples were euphotic zone composites of subsamples taken at the surface, Secchi Disc depth, and mid-depth.

Taxa	Number of Cells per Milliliter				
	Milltown Reservoir	Thompson Falls Reservoir	Noxon Reservoir nr. Trout Cr.	Noxon Reservoir nr. N. Shore	Cabinet Gorge Reservoir
Green Algae (Chlorophyta)					
Ankistrodesmus	7	15	7	7	
Dictyosphaerium					1,2[illegible]
Scenedesmus					[illegible]
Golden-brown Algae (Chrysophyta)					
Dinobryon		22		52	
Red Algae (Rhodophyta)					
Andouinella	45				
Diatoms (Bacillariophyta)					
Achnanthes	60		15	22	7
Asterionella					30
Cocconeis	75		7	22	7
Cymbella	218	180	128	38	38
Diatoma	38	30	15	15	30
Epithemia	60	7			
Fragilaria	112	15	30	7	142
Gomphoneis		7	15		
Gomphonema	398	22	22	15	
Hannaea	22	7			
Hantzschia		7			
Melosira	15				
Meridion	38				
Navicula	135	105	52	52	
Nitzschia	308	83	68	75	30
Rhizosolenia			22	22	30
Rhoicosphenia	52	7	7		
Surirella	7		7		
Synedra	7	83	150	202	68
unidentified centric diatoms	30	52	83	52	38
unidentified pennate diatoms	45	150	120	97	7
Miscellaneous Flagellated Algae					
Cryptomonas					7
Microplankton	810	322	270	232	398
TOTAL VIABLE ALGAE	2,482	1,114	1,018	910	2,062
Dead Algae	1,748	832	803	772	450

Table 25. (Continued) Density of viable algae cells in surface-water phytoplankton grab samples collected July 29-30, 1985. Samples were euphotic zone composites of subsamples taken at the surface and the Secchi Disc depth.

Taxa	Number of Cells per Milliliter				
	Milltown Reservoir	Thompson Falls Reservoir	Noxon Reservoir at Trout Cr.	Noxon Reservoir nr. N. Shore	Cabinet Gorge Reservoir
Green Algae (Chlorophyta)					
Actinastrum		128	97	15	173
Ankistrodesmus	52	142	97	52	38
Cosmarium	52	7			
Oocystis				60	30
Pediastrum				30	
Scenedesmus	52	60		30	
Westella					120
unidentified unicell			45	15	
Euglenoid Algae (Euglenophyta)					
Euglena	22				
Golden-brown Algae (Chrysophyta)					
Dinobryon		15	7	105	
Diatoms (Bacillariophyta)					
Achnanthes	22		7		
Cocconeis					7
Cymbella	22	7			
Epithemia	15				
Gomphonema	30	7			
Melosira			158		
Navicula	30	30			
Nitzschia	60	270	45	7	7
Synedra	22	30	7		
unidentified centric diatoms	38	3,615	263	45	292
unidentified pennate diatoms	7				
Blue-green Algae (Cyanophyta)					
Anabaena		30	22		
Oscillatoria	7				
Miscellaneous Flagellated Algae					
Cryptomonas				7	
Peridinium	15		7		
Rhodomonas			7		
unidentified unicell	38	105	533	142	
Microplankton	202	457	390	315	142
TOTAL VIABLE ALGAE	686	4,903	1,685	823	809
Dead Algae	855	457	98	187	173

Table 26. Reservoir phytoplankton chlorophyll results

	Site	Date	Chlorophyll a (mg/m^3)	Chloro. a / Pheo. a	Stability Index
03	Milltown Reservoir	04/04/84	2.96	1.29	3.41
		07/26/84	1.16	[illegible]	2.73
		10/25/84	3.15	1.22	2.45
		03/25/85	5.55	[illegible]	2.17
		(duplicate)	5.13	1.45	2.16
		07/29/85	2.30	1.30	2.03
		(duplicate)	2.45	1.38	2.08
26	Thompson Falls Reservoir	04/05/84	3.57	1.60	2.77
		07/25/84	— sample lost in laboratory —		
		10/25/84	3.15	[illegible]	2.45
		03/25/85	5.41	1.60	2.31
		(duplicate)	5.43	1.52	2.42
		07/29/85	2.93	1.53	2.08
28	Noxon Reservoir near north shore	04/05/84	3.06	1.56	2.47
		07/25/84	0.53	1.81	2.90
		10/25/84	1.67	1.49	2.48
		03/26/85	3.97	1.43	2.30
		(duplicate)	4.08	1.35	2.41
		07/30/85	1.66	1.42	2.63
28	Noxon Reservoir near Trout Creek	Spring '84	— not sampled —		
		Summer '84	— not sampled —		
		10/25/84	1.24	1.37	2.52
		03/26/85	3.56	1.40	2.48
		(duplicate)	3.62	1.43	2.40
		07/30/85	3.85	1.48	2.21
30	Cabinet Gorge Reservoir	04/05/84	2.96	1.31	2.68
		07/25/84	— sample lost in laboratory —		
		10/26/84	1.74	1.43	2.43
		03/26/85	2.52	1.42	2.63
		(duplicate)	2.53	1.30	2.90
		07/30/85	1.17	1.40	2.74

Table 27. Reservoir Secchi Disc Transparency Data

Date	Time	Station*	Secchi Disc Reading (ft)	Weather and Sky Conditions
4/4/84	11:20 a.m.	03 Milltown Reservoir	7.5	Bright, Sunny
4/5/84	10:45 a.m.	26 Thompson Falls Reservoir	11.5	Bright, Sunny
4/5/84	4:30 p.m.	28 Noxon Rapids Reservoir	11.0	Cloudy
4/5/84	2:15 p.m.	30 Cabinet Gorge Reservoir	12.0	Overcast, Raining
7/26/84	11:00 a.m.	03 Milltown Reservoir	---	Bright, Sunny.
7/25/84	10:00 a.m.	26 Thompson Falls Reservoir	11.0	Bright, Sunny
7/25/84	1:00 p.m.	28 Noxon Rapids Reservoir	13.0	Bright, Sunny
7/25/84	5:00 p.m.	30 Cabinet Gorge Reservoir	13.0	Bright, Sunny
10/25 to 10/26/84		No data recorded		
3/25/85	12:00 p.m.	03 Milltown Reservoir	3.5, 4.5	Bright, Sunny
3/25/85	5:00 p.m.	26 Thompson Falls Reservoir	7.0	Cloudy, Snowing
3/26/85	2:00 p.m.	28 Noxon Rapids Reservoir		
		Near Trout Creek	4.5	Partly Cloudy, Windy
		N. Shore Campground	4.5	Bright, Sunny, Windy
3/26/85	11:00 a.m.	30 Cabinet Gorge Reservoir	6.0	Bright, Sunny, Windy
7/29/85	12:00 p.m.	03 Milltown Reservoir	6.5	Bright, Sunny
7/29/85	5:30 p.m.	26 Thompson Falls Reservoir	7.0	Bright, Sunny
7/30/85	12:00 p.m.	28 Noxon Rapids Reservoir		
		Near Trout Creek	10.0	Partly Cloudy
		N. Shore Campground	12.0	Partly Cloudy
7/30/85	9:30 a.m.	30 Cabinet Gorge Reservoir	15.5	Bright, Sunny

*Actual reservoir measurement location given in Table 1.B. and Appendix C.

IV. MPDES Self-Monitoring Data

All municipal and industrial discharges to state waters must be authorized by the Montana Pollutant Discharge Elimination System (MPDES) permit program administered by the Water Quality Bureau. The permit specifies allowable levels of contaminants in the wastewater discharge and requires monitoring of the levels of those contaminants by the permittee (self-monitoring). In addition, the Water Quality Bureau performs its own compliance monitoring of permitted discharges to ensure compliance with the permit requirements.

The City of Missoula municipal wastewater treatment plant and the Champion Frenchtown Mill are the two primary wastewater dischargers to the reach of the Clark Fork under study. Self monitoring is performed on a daily or more frequent basis by both facilities for certain parameters and less frequently for other tests. Since these self-monitoring records will be an important part of the information which will be evaluated in the EIS, summaries of the data are tabulated in the following tables. Also included are yearly summaries for Champion's wastewater disposal system for state fiscal years 1984 and 1985.

Table 28. City of Missoula Wastewater Treatment Plant Discharge Self-Monitoring Data

Monthly Averages

Month	Flow (cfs)	BOD_5 (mg/l)	TSS (mg/l)	Total Ammonia-N (mg/l)	Total KJLD-N (mg/l)	Nitrate+ Nitrite-N (mg/l)	Total Phosphorus-P (mg/l)
January 1984	8.77	23.6	28.7	—	—	—	—
February 1984	8.35	40.4	36.9	—	—	—	—
March 1984	8.48	32	30	—	—	—	—
April 1984	8.77	45.0	62.0	12.76	14.14*	2.73*	6.12*
May 1984	9.49	45	42	11.1	13.9*	1.80	6.98*
June 1984	9.53	27	29	10.62*	12.13*	1.88*	5.14*
July 1984	9.27	28.7	29	6.21*	7.69*	2.35*	7.58*
August 1984	9.02	22	16.4	5.35	7.16	3.70	8.26*
September 1984	8.51	23	17.8	5.57	5.14	2.15	6.21*
October 1984	8.68	33.3	24.8	6.8	8.0*	2.4*	3.2*
November 1984	8.84	30.2	23	7.08	8.7	3.27	3.66*
December 1984	8.49	26	29	6.49	10.3*	4.3	—
January 1985	8.39	30.1	28	8.19	8.32	2.73	6.48*
February 1985	8.73	26.9	18.6	10.66	12.3	1.8	4.5*
March 1985	8.39	22.5	13.9	11.2	12.1	3.7	5.17*
April 1985	8.76	36	20.8	8.8	8.8	4.9	5.2*
May 1985	9.77	63	38	3.7	5.0	4.8	2.2*
June 1985	9.77	31.5	15	1.47	2.8	3.8	—
July 1985	9.61	26.5	12.5	1.88	2.61	1.68	4.49*

* = only one value reported

Table 29. Champion International Frenchtown Mill Self-Monitoring Data.

Part 1. Treated Wastewater Direct Discharge 001.

Month	No. of Days of Discharge	Monthly Averages * BOD (mg/l)	TSS (mg/l)	Flow (cfs)	Color (SCU)	H_2S (mg/l)	Nitrate-N (mg/l)	Nitrite-N (mg/l)	Total KJLD-N (mg/l)	Total Phosphorus-P (mg/l)
January 1984	0									
February 1984	0									
March 1984	0									
April 1984	0									
May 1984	16	62.1	113.2	12.5	1090	.08	.03	----	7.93	.69
June 1984	12	52.8	107	8.8	1305	----	.34	.03	5.94	1.85
July 1984	0									
August 1984	0									
September 1984	0									
October 1984	0									
November 1984	0									
December 1984	0									
January 1985	0									
February 1985	0									
March 1985	0									
April 1985	0									
May 1985	9	103	112	19.8	1360		N.D.	N.D.	17.4	2.95
June 1985	16	82	102	14.9	1267	.42	N.D.	N.D.	16.4	2.59
July 1985	2	52	92	6.0	----	----	----	----	----	----
August 1985	0									

* monthly averages calculated by dividing by number of days discharge occurred during the month.

N.D. = Non-detectable

Table 29. Champion International Frenchtown Mill Self-Monitoring Data.

Part 2. Treated Wastewater Direct Discharge 003.

Monthly Averages *

Month	No. of Days of Discharge	BOD (mg/l)	TSS (mg/l)	Flow (cfs)	Color (SCU)	H_2S (mg/l)	Nitrate-N (mg/l)	Nitrite-N (mg/l)	Total KJLD-N (mg/l)	Total Phosphorus-P (mg/l)
January 1984	0									
February 1984	0									
March 1984	0									
April 1984	24	35	55	11.6	1172	—	1.1	—	3.66	1.14
May 1984	31	44	88	34	1092	.06	.09	—	5.78	.83
June 1984	30	56	102	31.8	1088	.02	.30	.07	2.3	2.32
July 1984	30	41	89	6.9	1197	.01	.28	.11	3.7	2.94
August 1984	31	39	80	1.9	1882	.02	.23	.22	4.2	2.08
September 1984	30	68	70	4.9	1550	.01	.48	.05	7.0	2.80
October 1984	31	61	66	6.0	1432	.02	<.11	.09	12.7	3.54
November 1984	30	59	68	4.6	1385	.03	<.01	.08	14.8	3.98
December 1984	23	61	65	3.0	1372	.01	<.02	<.01	14.9	3.95
January 1985	13	62	66	1.2	1385	.05	<.02	.02	15.22	4.00
February 1985	15	70	76	1.1	1330	0.02	<.16	<.01	16.03	3.67
March 1985	31	71	57	1.5	1464	.50	<.03	.02	16.82	3.50
April 1985	30	60	61	17.4	1030	1.74	<.01	.04	13.12	2.22
May 1985	31	83	101	32.5	1242	.14	<.04	.05	15.86	2.74
June 1985	25	41	71	21.3	938	.42	<.05	.01	12.71	1.83
July 1985	0									
August 1985	15	44	75	2.7	1940	—	N.D.	.06	14.4	3.95

* monthly averages calculated by dividing by number of days discharge occurred during the month.

N.D. = Non-detectable

Table 29. Champion International Frenchtown Mill Self-Monitoring Data.

Part 3. Cooling Water Direct Discharge 004

Maximum Values

Month	Flow (cfs)	Temp (° F)
January 1984	16.9	75
February 1984	14.3	76
March 1984	15.8	79
April 1984	16.7	88
May 1984	15.4	80
June 1984	15.6	81
July 1984	14.3	86
August 1984	14.3	87
September 1984	46.7	83
October 1984	17.2	75
November 1984	16.0	68
December 1984	18.7	77
January 1985	17.4	74
February 1985	13.8	69
March 1985	13.6	78
April 1985	13.6	81
May 1985	15.2	88
June 1985	15.6	84
July 1985	12.3	91
August 1985	17.2	90

Table 29. Champion International Frenchtown Mill Self-Monitoring Data. Part 4. Groundwater Monitoring Wells

Individual Results by Well Number

	1 R					2 R					4 R				
Month	BOD (mg/1)	Sodium (mg/1)	Color (SCU)	Total KJLD-N (mg/1)	Total P (mg/1)	BOD (mg/1)	Sodium (mg/1)	Color (SCU)	Total KJLD-N (mg/1)	Total P (mg/1)	BOD (mg/1)	Sodium (mg/1)	Color (SCU)	Total KJLD-N (mg/1)	Total P (mg/1)
February 1984	8	1520	1320	—	—	21	1790	1040	—	—	6	1690	1210	—	—
April 1984	6	1490	1980	—	—	18	1690	1530	—	—	6	1750	1430	—	—
June 1984	7	1430	1340	—	—	22	1590	1710	—	—	5	1690	1300	—	—
July 1984	6	1630	1030	—	—	24	1500	1680	—	—	3	1630	900	—	—
August 1984	6	1430	1210	—	—	28	1590	2130	—	—	3	1390	840	—	—
October 1984	8	1450	1460	—	—	42	1840	2620	—	—	4	1630	1220	—	—
December 1984	10	1490	1640	3.92	1.14	28	1530	1120	7.42	1.60	4	1280	1120	2.35	0.45
February 1985	9	1460	2120	—	—	28	1550	1620	—	—	3	1480	990	—	—
March 1985	9	1490	1770	3.25	1.25	25	1560	1180	9.18	1.23	4	1550	960	2.27	0.36
May 1985	6	1590	1180	—	—	36	1420	2040	—	—	6	1680	980	—	—
June 1985	6	1500	1040	—	—	30	1450	1700	—	—	8	1580	1160	—	—
July 1985	9	1530	1290	—	—	26	1490	1620	—	—	10	1110	920	—	—

Table 29. (Continued)

Individual Results by Well Number

Month	423 BOD (mg/l)	423 Sodium (mg/l)	423 Color (SCU)	423 Total KJLD-N (mg/l)	423 Total P (mg/l)	514 BOD (mg/l)	514 Sodium (mg/l)	514 Color (SCU)	514 Total KJLD-N (mg/l)	514 Total P (mg/l)
February 1984	4	1450	1070	—	—	2	470	280	—	—
April 1984	2	810	1150	—	—	5	500	290	—	—
June 1984	2	610	550	—	—	2	450	210	—	—
July 1984	2	380	280	—	—	2	340	180	—	—
August 1984	1	310	200	—	—	1	230	150	—	—
October 1984	3	—	450	—	—	4	—	230	—	—
December 1984	2	1020	920	1.51	0.50	2	500	270	4.17	0.50
February 1985	3	1260	100	—	—	2	600	260	—	—
March 1985	3	1320	620	1.93	0.58	2	570	220	1.62	0.34
May 1985	3	1260	660	—	—	1	640	250	—	—
June 1985	4	1310	640	—	—	4	610	290	—	—
July 1985	6	1310	900	—	—	[illegible]	550	200	—	—

Table 29. (Continued)

Individual Results by Well Number

Month	5 R BOD (mg/1)	5 R Sodium (mg/1)	5 R Color (SCU)	5 R Total KJLD-N (mg/1)	5 R Total P (mg/1)	404 BOD (mg/1)	404 Sodium (mg/1)	404 Color (SCU)	404 Total KJLD-N (mg/1)	404 Total P (mg/1)
February 1984	2	620	260	—	—	5	1550	1340	—	—
April 1984	2	780	420	—	—	3	1420	1180	—	—
June 1984	5	872	200	—	—	3	1530	1230	—	—
July 1984	6	820	200	—	—	4	1560	1060	—	—
August 1984	2	610	270	—	—	6	1450	1020	—	—
October 1984	3	—	440	—	—	7	—	1260	—	—
December 1984	2	400	420	1.99	0.52	4	1560	740	3.25	1.26
February 1985	1	340	320	—	—	5	1590	900	—	—
March 1985	1	37	190	1.29	0.26	4	1530	650	2.63	1.00
May 1985	1	450	200	—	—	4	1580	850	—	—
June 1985	1	450	190	—	—	6	1750	1110	—	—
July 1985	4	360	210	—	—	4	1220	540	—	—

Table 29.
Part 5

Champion

Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH DECEMBER 1984

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
1	2659				[illegible]	4	[illegible]	
					[illegible]	4	[illegible]:30	[illegible]
2	2577				8:[illegible]0	3	8:30	7
					13:00	4	13:20	8
3	2294				7:20	2	7:50	6
					11:20	3	11:45	8
4	1852				7:20	4	7:50	9
5	1596	32.0			7:50	2	8:20	7
6	1453				7:40	3	8:10	7
7	1476				7:20	3	7:50	7
8	1658		12.0	11.7	7:30	3	8:00	7
9	2190				7:25	4	7:50	7
					13:30	3	14:00	6
					18:00	4	18:25	8
10	2827				7:15	4	7:45	8
					11:20	2	11:45	6
11	2810		11.8	11.7	7:00	5	7:30	8
					11:20	5	11:45	9
12	2675	32.4			7:15	4	7:45	9
					11:15	6	11:40	11
13	2609				7:25	4	7:55	8
					11:20	3	11:45	8
14	2294				7:10	4	7:40	8
					11:10	3	11:35	8
15	2356				7:00	3	7:30	8
					11:00	4	11:25	8
16	2433				7:00	3	7:30	7
					11:00	3	11:25	7
17	2003				7:15	3	7:45	8
	1866				11:15	4	11:45	8
18	1826		12.0	12.0	7:00	4	7:30	7
19	1709	32.0			7:20	4	7:50	8

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH DECEMBER 1984

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
20	1696				8:25	4	8:55	6
21	1786				8:30	3	8:55	6
22	2249				7:00	3	7:25	6
					14:15	4	14:35	7
23	2465				6:55	3	7:15	8
					11:35	3	12:05	8
24	2340				6:35	4	6:55	8
					11:35	4	11:55	8
25	2074		11.8	12.4	7:05	3	7:40	8
	2088				11:05	3	11:30	8
26	2059				8:15	4	8:40	8
					12:40	3	13:05	8
27	2340				8:15	2	8:45	7
					13:20	2	13:50	7
28	2449	33.6			9:05	2	9:30	6
					13:10	2	13:35	6
29	2356				7:25	4	7:45	9
					12:45	3	13:15	7
30	2325				7:44	3	8:15	8
					11:51	3	12:20	9
31	2325		12.0	12.0	7:15	3	7:45	8
					12:35	3	13:00	8

COMMENTS:

Table 29.5

SELF-MONITORING SUMMARY SHEET

Permittee Hoerner Waldorf Corp
Permit No. MT-0000035
Calendar Year

*Color Appendix
NCASL Std Color Units

rameter	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
ite 1 Haypus					[illegible]							
Marine												
6-mile												
ite 2 Haypus					10/11							
Marine												
6-mile		14			15/16							
ite 3 Haypus					[illegible]							
Marine												
6-mile					[illegible]							
ite 4 Haypus					[illegible]							
Marine												
6-mile					15/17							
ite 5 Haypus					12/12							
Marine												
6-mile					15/17							
ite 6 Haypus					15/11							
Marine												
6-mile					[illegible]							
ite 7 Haypus			8	3/4	12/12							
Marine												
6-mile			13	8/9	17/18							
ite 8 Haypus				3-4	11/11							
Marine												
6-mile				7/7	15/16							
ite 9 Haypus				5/6	11/12							
Marine												
6-mile				9/9	15/17							
ite 10 Haypus				6/6/8	12/13							
Marine				[illegible]								
6-mile				10/7/10	16/17							

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA

MONTH NOVEMBER 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
1	3109		11.2	11.2	6:10	4	6:40	8
					10:20	4	10:45	9
2	3001				7:05	4	7:35	8
					11:05	4	11:30	8
3	3387				8:27	3	8:51	7
					12:02	3	12:25	7
4	3760				8:20	7	3:47	10
					13:16	8	13:38	10
5	3561				7:25	6	7:55	10
					11:25	6	11:50	10
6	3561				7:10	5	7:45	10
					11:15	5	11:40	9
7	3218	38.7			7:25	5	7:55	9
					11:30	4	11:55	9
8	3182		10.7	10.8	6:15	4	6:45	9
					13:15	4	13:40	9
9	3127				9:05	4	9:30	8
					12:00	4	12:50	9
10	3055				7:30	4	7:50	9
					11:35	4	12:00	8
11	3037				7:55	4	8:20	8
					12:10	4	12:30	9
12	3019				7:00	4	7:30	8
					11:25	4	11:50	9
13	2983				7:15	4	7:45	9
					11:15	4	11:40	8
14	3055	40.2			7:20	4	7:50	8
					11:20	4	11:45	8
15	3037		11.1	11.2	6:30	4	7:00	8
					10:30	4	10:55	8
16	2879				9:10	4	9:30	8
					13:45	4	14:10	9

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH NOVEMBER 1984

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	
17	2827				[illegible]	4	7:20	
					11:[illegible]	4	12:00	
18	2879				6:45	4	7:05	[illegible]
					11:00	[illegible]	11:25	8
19	2827				7:20	4	7:50	8
					11:15	3	11:40	8
20	2844				7:15	4	[illegible]:50	8
					11:15	3	11:40	8
21	2879	37.3			7:10	3	7:40	7
					11:10	3	11:25	8
22	2879		11.2	11.1	6:41	4	7:43	8
					10:30	3	10:48	7
23	2827				7:00	3	7:25	7
					11:00	4	11:20	8
24	2776				7:10	4	7:45	8
					11:00	4	11:20	8
25	2810				7:05	4	7:35	8
					11:00	4	11:20	8
26	2742				8:55	4	9:15	7
					13:30	3	13:55	7
27	2708				7:10	3	7:40	7
					11:10	3	11:35	7
28	2561	34.4			7:10	3	7:40	7
					11:10	3	11:35	8
29	2725		11.6	11.7	6:40	3	7:10	7
					10:50	3	11:15	8
30	2776				7:10	4	7:40	8
					11:10	4	11:35	8

COMMENTS:

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH OCTOBER 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
1	3740				7:10	4	7:40	8
					11:10	5	11:35	9
2	3740				7:05	5	7:35	9
					11:10	5	11:35	9
3	3720	49.7			7:05	6	7:35	10
					12:40	5	13:05	8
4	3561				8:15	5	8:35	9
					11:35	4	11:10	8
5	3503		8.6	9.0	6:53	5	7:18	10
					11:00	6	11:25	10
6	3368				7:10	6	7:40	10
					11:45	6	12:10	10
7	3330		9.1	9.2	7:00	2	7:40	7
					11:00	5	11:30	9
8	3274				8:30	5	8:55	9
					14:10	4	14:35	9
9	3218		9.0	8.7	6:50	5	7:25	9
					11:05	5	11:30	9
10	3145				8:35	5	9:00	9
					13:20	5	13:40	9
11	3073	51.6	8.4	8.4	7:10	3	7:35	7
					13:05	4	13:30	9
12	3163				8:50	4	9:15	8
					12:40	5	13:05	9
13	3163		9.0	9.0	7:05	5	7:40	9
					11:10	5	11:50	10
14	3200				7:20	5	7:40	9
					11:16	5	11:30	9
15	3368				7:15	5	7:45	9
					11:15	4	11:45	8
16	3218		9.9	9.9	6:15	5	7:15	9
					10:55	4	11:20	9

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH OCTOBER 1984

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	HARPER'S COLOR	SIX-MILE TIME	SIX-MILE COLOR
17	3293	41.4			7:30	4	7:55	
					11:[illegible]	4	1:50	
18	3182		10.4	10.2	6:40	5	[illegible]:10	
					11:00	7	11:30	9
19	3163				7:35	5	8:00	9
					11:00	4	11:45	8
20	3145				4:20	5	4:45	9
					10:45	5	11:10	9
21	3145				9:0[illegible]	4	9:20	8
					12:40	4	13:05	8
22	3055				8:10	4	8:35	8
					13:15	4	13:40	8
23	3019				8:10	4	8:40	8
					13:05	4	13:25	8
24	3019				8:40	4	9:00	8
					12:50	4	13:15	8
25	2966	42.6	10.4	10.3	7:20	3	7:45	8
					12:50	4	13:20	8
26	3073				9:00	6	9:20	9
					13:55	3	14:15	7
27	3255				7:30	4	8:00	8
					12:45	4	13:15	8
28	3312				6:00	4	6:30	8
					12:30	4	13:30	8
29	3274				7:25	4	7:55	8
					11:25	5	11:50	9
30	3127				7:15	4	7:45	8
					11:15	5	11:40	9
31	3109	39.0			7:35	5	8:05	9
					11:35	5	12:05	9

COMMENTS:

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA

MONTH SEPTEMBER 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
1	2983				8:07	7	8:30	9
					12:54	7	13:30	9
2	3561		8.1	8.2	6:10	9	6:31	12
					12:05	9	12:25	12
3	3445				9:20	9	9:47	13
					13:40	8	14:00	12
4	3218		7.8	7.9	6:15	8	6:40	12
					14:27	8	14:52	12
5	3037	62.5			7:25	7	7:47	12
					13:55	7	14:25	12
6	3001		7.3	7.2	6:20	7	6:50	11
					13:10	7	13:35	10
7	2948				8:55	7	9:15	11
					13:30	8	13:55	11
8	3182		8.4	8.5	6:25	7	6:45	10
					10:55	7	11:20	10
9	3182				7:25	7	7:45	10
					12:53	7	13:35	10
10	3561		8.3	8.2	5:40	6	6:10	9
					9:40	7	10:10	10
11	3406				8:05	7	8:30	11
					13:00	7	13:25	12
12	3274	52.7	8.3	8.3	6:20	6	6:45	10
					9:40	6	10:45	11
13	3182				7:10	6	7:35	10
					12:35	6	13:05	9
14	3163		8.7	8.7	5:50	8	6:20	11
					9:50	6	10:20	10
15	3091				9:07	6	9:30	10
					13:50	5	14:20	9
16	3182		8.3	8.3	6:55	6	7:15	10
					11:45	6	12:30	10

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH SEPTEMBER 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l)		COLOR (SCU)			
			HARPER'S	SIX-MILE	HARPER'S		SIX-MILE	
					TIME	COLOR	TIME	C
17	3127				7:20	5	.50	[illegible]
					11	5	1:40	9
18	3037		7.9	7.9	5:00	6	5:30	9
					9:05	6	9:30	10
19	2913	57.6			7:00	6	7:30	11
					12:15	6	12:40	10
20	3001		7.8	7.8	5:05	6	5:35	10
					9:35	6	10:00	10
21	3182				8:55	6	9:20	10
					13:10	6	13:30	10
22	3821		8.8	8.8	6:45	7	7:15	10
					13:15	8	13:35	10
23	3966				7:00	8	7:20	11
					11:10	7	11:30	11
24	3862		9.8	9.9	6:10	7	6:35	11
					10:10	7	10:35	10
25	3821				7:15	7	7:40	10
					11:15	6	11:40	10
26	3780	47.7	9.5	9.5	6:10	6	6:40	9
					10:15	7	10:40	11
27	3821				7:15	5	7:40	9
					11:15	6	11:40	10
28	3862		10.1	10.1	6:15	5	6:45	9
					10:15	5	10:40	9
29	3862				6:20	5	6:55	9
					11:00	5	11:30	9
30	3760				7:00	4	7:30	8
					11:15	4	11:40	8

COMMENTS:

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER NUTRIENT DATA

MONTH SEPTEMBER 1984

DAY	TOTAL KJELDAHL NITROGEN (mg/l) HARPER'S	SIX-MILE	TOTAL PHOSPHORUS (mg/l) HARPER'S	SIX-MILE	NITRATE (mg/l) HARPER'S	SIX-MILE	NITRITE (mg/l) HARPER'S	SIX-MILE
1								
2								
3								
4								
5	0.09	0.07	0.13	0.11	0.08	0.05	<0.01	<0.01
6								
7								
8								
9								
10								
11	0.16	0.18	0.07	0.07	0.04	0.04	<0.01	<0.01
12								
13								
14								
15								
16								
17								
18	0.27	0.24	0.10	0.10	0.04	0.04	<0.01	<0.01
19								
20								
21								
22								
23								
24								
25								
26	0.32*	0.45*	0.07	0.07	0.12	0.10	<0.01	<0.01
27								
28								
29								
30								
31								

COMMENTS: *Values reflect increased digestion time.

Table 29.5.

Champion

Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH AUGUST 1984

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l)		COLOR (SCU)			
			HARPER'S	SIX-MILE	HARPER'S		SIX-MILE	
					TIME	COLOR	TIME	COLOR
1	3560	64.8	7.0	7.1	5:00	9	5:30	10
					9:10	8	9:40	9
2	3350				7:05	5	7:35	8
					11:05	7	11:30	8
3	3540		7.4	7.3	5:00	7	5:30	10
					9:00	8	9:25	10
4	3350				8:00	8	8:30	10
					12:00	7	12:20	10
5	3290		7.3	7.2	5:40	8	6:00	10
					9:55	8	10:20	10
6	3190				7:06	8	7:35	10
					11:05	8	11:30	11
7	3150		7.4	7.5	5:10	8	5:40	10
					9:35	7	10:00	10
8	2990	62.3			7:15	7	7:40	10
					12:15	7	12:45	10
9	2840		7.4	7.4	5:25	7	5:50	10
					11:00	6	11:45	9
10	2913				7:35	6	8:00	10
					11:10	7	11:35	10
11	2827		7.4	7.3	5:53	7	6:30	10
					11:17	6	11:58	10
12	2810				10:30	7	11:00	10
					15:45	7	16:20	10
13	2879		7.6	7.4	5:45	7	6:10	10
					12:40	6	13:10	9
14	3019				8:15	7	9:05	9
					14:45	7	15:10	10
15	2931		7.4	7.3	5:50	7	6:15	9
					10:00	6	10:20	9
16	2896	65.5			8:00	7	8:20	10
					13:55	7	14:20	9

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH AUGUST 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
17	2879		7.4	7.6	6:00	6	6:25	10
					13:00	8	13:55	10
18	2861				9:45	7	10:15	10
					13:00	7	13:30	10
19	2810		7.3	7.4	5:40	7	6:05	11
					12:35	7	13:15	11
20	2810				11:05	7	11:30	9
					14:05	8	14:35	10
21	2675		7.4	7.4	5:30	6	6:00	10
					9:45	6	10:10	10
22	2642	60.8			7:15	7	7:55	9
					13:05	6	13:35	9
23	2577		7.2	7.6	5:30	6	6:00	10
					9:35	6	10:05	10
24	2544				7:20	5	7:50	9
					13:10	5	13:40	8
25	2544		7.4	7.6	4:19	7	4:50	10
					8:00	7	8:20	10
26	2561				7:16	7	7:46	12
					12:10	7	12:45	11
27	2496		7.2	7.4	5:20	6	5:40	10
					9:25	6	9:50	9
28	2465				7:15	4	7:45	7
					12:45	6	13:10	10
29	2402	57.5	7.6	8.0	5:25	6	5:55	10
					9:30	6	10:15	10
30	2264				7:15	6	7:45	10
					12:30	5	13:00	9
31	2386		7.6	7.8	5:30	5	6:00	9
					10:15	4	10:40	8

COMMENTS:

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER NUTRIENT DATA

MONTH AUGUST 19 84

DAY	TOTAL KJELDAHL NITROGEN (mg/l)		TOTAL PHOSPHORUS (mg/l)		NITRATE (mg/l)		NITRITE (mg/l)	
	HARPER'S	SIX-MILE	HARPER'S	SIX-MILE	HARPER'S	SIX-MILE	HARPER'S	SIX-MILE
1	0.13	0.38	0.09	0.12	0.06	0.04	< 0.01	< 0.01
2								
3								
4								
5								
6								
7								
8	0.23	0.13	-*	-*	0.06	0.02	< 0.01	< 0.01
9								
10								
11								
12								
13								
14								
15	0.17	0.08	0.13	0.15	< 0.01	0.01	0.05	0.05
16					0.02**	0.04**		
17								
18								
19								
20								
21								
22	0.10	0.12	0.11	0.09	0.06	0.05	< 0.01	< 0.01
23								
24								
25								
26								
27								
28								
29	0.17	0.18	0.13	0.11	0.03	0.04	0.03	0.04
30								
31								

COMMENTS: *Test failed.

**Recheck.

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA

MONTH July 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/1) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
1	16600				5:55	11	6:25	14
					10:35	14	11:25	18
2	13900		8.6	8.5	4:15	14	4:45	17
					8:30	12	8:55	16
3	12600				7:10	11	7:40	15
					11:05	11	11:30	15
4	11600		8.2	8.3	4:40	13	5:15	15
					12:00	13	12:30	17
5	10800				13:25	13	13:50	14
					15:18	11	15:40	14
6	10300		7.7	7.9	4:40	13	5:05	15
					10:45	12	11:10	15
7	9950				10:00	10	10:30	13
					14:00	12	14:30	14
8	9160		7.9	8.2	4:40	10	5:15	13
					15:45	10	16:15	13
9	8220				8:20	10	8:45	11
					13:00	10	13:25	12
10	7700		7.8	8.1	5:20	10	5:45	11
					13:25	8	13:50	10
11	7110	64.0			8:50	8	9:15	10
					13:48	8	14:11	9
12	6540		7.6	7.7	5:15	10	5:40	11
					15:45	6	16:15	8
13	6380				9:30	8	9:50	9
					14:50	8	15:10	10
14	6010		7.6	7.8	5:10	9	5:40	12
					11:50	9	12:10	11
15	5600				6:55	9	7:15	12
					14:00	9	14:20	12
16	5260		7.4	7.6	4:40	9	5:10	12
					13:20	9	13:45	13

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH July 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
17	5020				7:10	8	7:40	12
					11:15	8	11:40	12
18	4790	65.2	7.2	7.3	4:30	8	5:00	12
					10:00	8	10:25	13
19	4560				7:10	8	7:40	11
					11:10	8	11:40	11
20	4430		7.4	7.4	4:40	8	5:10	13
					9:00	8	9:25	12
21	4240				7:04	8	7:30	12
					12:25	6	12:53	9
22	4090		7.5	7.7	4:30	9	5:00	11
					10:30	7	11:00	11
23	3790				8:00	7	8:30	11
					15:30	8	15:55	11
24	3730		7.7	7.8	5:20	8	5:45	11
					11:05	7	11:30	8
25	3730	62.0			7:10	10	7:40	12
					12:55	7	14:15	8
26	3590		7.1	7.0	5:00	7	5:50	9
					8:50	8	9:30	9
27	3440				7:05	7	7:30	9
					11:05	7	11:30	8
28	3590		7.0	7.0	5:20	8	5:45	10
					10:20	8	10:45	9
29	3610				8:00	8	8:20	9
					12:40	7	13:05	9
30	3730		7.3	7.4	4:50	8	5:20	10
					9:00	8	9:25	10
31	3750				7:50	8	8:15	9
					13:30	7	14:00	8

COMMENTS: The river temperature for the week of July 2 was inadvertently missed.

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER NUTRIENT DATA

MONTH July 19 84

Y	TOTAL KJELDAHL NITROGEN (mg/l)		TOTAL PHOSPHORUS (mg/l)		NITRATE (mg/l)		NITRITE (mg/l)	
	HARPER'S	SIX-MILE	HARPER'S	SIX-MILE	HARPER'S	SIX-MILE	HARPER'S	SIX-MILE
1								
2								
3	0.10	0.09	N.D.	N.D.	0.08	0.05	0.0021	0.0020
4								
5								
6								
7								
8								
9								
0								
1	0.17	0.15	0.07	0.06	0.09	0.09	0.0022	0.0022
2								
3								
4								
5								
6								
7								
8	0.24	0.14	0.23	0.32	0.09	0.07	0.0023	0.0026
9								
20								
21								
22								
23								
24								
25	0.35	0.13	0.14	0.16	0.06	0.04	--*	--*
26								
27								
28								
29								
30								
31								

MMENTS: N.D. = none detected.
*Test failed.

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA

MONTH June 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILL TIME	COLOR
1	29700				7:25	34	7:50	[illegible]9
					10:15	32	10:40	37
					14:[illegible]	29	14:25	34
2	24600		9.7	9.5	5:20	22	5:45	[illegible]7
					11:00	19	11:45	25
3	20900				7:43	16	8:09	21
					11:20	17	12:35	22
4	19000		9.2	9.1	4:20	-*	4:50	-*
					8:50	18	9:20	23
					11:1[illegible]	19	12:00	24
					15:55	14	16:15	20
5	18100				7:15	13	7:45	18
					11:10	16	11:40	20
6	19100	49.9	9.4	9.4	4:15	17	4:45	22
					8:55	17	9:50	21
7	18100				7:20	17	7:50	21
					13:40	16	14:10	22
8	17100		9.8	9.7	4:15	15	4:45	19
					9:10	17	10:00	21
9	15700				9:35	16	9:55	20
					13:35	15	13:55	20
10	14400		9.5	9.4	4:45	13	5:10	17
					9:00	13	9:20	18
11	13[illegible]00				7:20	12	7:50	16
					11:00	12	11:40	15
12	16100		9.5	9.4	4:15	13	4:45	16
					10:15	14	11:10	19
13	17100	52.1			7:15	18	7:45	19
					13:15	18	14:10	21
14	18500		9.1	9.2	4:05	15	4:35	18
					9:40	16	10:40	20
15	20100				7:10	15	7:40	19

*Tests failed - river resampled.

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH June 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
15					10:10	15	11:40	19
16	21200		8.7	8.7	4:35	17	5:10	21
					11:10	17	11:35	21
17	22700				7:10	17	7:30	20
					11:15	17	11:35	21
18	22900		8.9	8.9	4:00	17	4:30	21
					9:45	17	11:00	21
19	20900				7:10	16	7:40	20
					10:40	16	11:35	19
20	20100	57.8	8.8	8.8	4:00	16	4:25	18
					9:35	15	10:50	17
21	22200				7:15	17	7:45	20
					10:15	17	11:30	20
22	28400		9.2	9.2	4:05	27	4:35	29
					10:15	30	11:30	32
23	26500				7:00	29	7:20	32
					10:45	35	11:30	38
24	22300		8.8	8.9	4:45	25	5:15	29
					8:45	24	9:10	28
25	20700				7:10	17	7:40	21
					11:00	18	11:30	23
26	21200		8.4	8.4	4:10	20	4:40	25
					9:15	21	9:55	25
27	20800	60.0			7:05	20	7:35	25
					11:00	21	11:25	27
8	20700		8.6	8.7	4:00	-*	4:30	-*
					9:00	15	9:25	18
					11:00	14	11:30	19
9	19200				7:10	16	7:35	20
					11:10	15	11:35	19
0	18100		8.7	8.8	4:30	12	4:55	17
					10:05	14	10:30	17

Test failed - river resampled.

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH MAY 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
1	5850				7:50	12	8:20	[illegible]
					13:45	12	14:15	[illegible]
2	5750	49.0			[illegible]	10	[illegible]	[illegible]
					11:20	11	11:50	16
3	5480				7:40	12	8:10	17
					13:35	13	14:15	18
4	5480				7:50	11	8:20	15
					14:20	13	14:40	17
5	5480				6:50	12	7:29	17
					12:01	12	12:28	17
6	5020		9.7	10.0	5:45	12	6:10	16
					12:20	11	12:50	17
7	4810				7:40	12	8:10	17
					11:05	13	11:35	18
8	4630		9.5	9.8	4:45	11	5:15	15
					11:20	11	11:50	16
9	4560	51.3			7:30	11	8:00	15
					11:00	12	11:30	17
10	4950		8.8	9.0	5:05	12	5:30	16
					14:25	13	14:50	17
11	5480				9:25	13	9:50	16
					14:40	13	15:05	17
12	5630		9.0	9.0	5:20	13	5:50	18
					9:30	12	9:55	16
13	6740				9:00	15	9:37	18
					14:35	16	15:00	20
14	8930		8.6	8.6	4:45	17	5:15	20
					14:55	18	15:15	22
15	13900				7:30	24	8:00	26
	15300				12:55	25	13:25	30
16	21200	46.3	10.0	9.7	4:40	39	5:10	42
					12:45	42	13:15	49

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH MAY 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
16					14:35	38	15:05	43
17	23700				7:30	40	8:05	43
					13:40	38	14:10	43
18	21200		9.8	9.6	4:45	34	5:15	38
					10:05	26	10:35	34
19	18900				7:05	25	7:25	32
					13:50	24	14:10	30
20	19100		9.4	9.2	5:15	24	5:45	28
					10:50	22	11:15	27
21	23200				7:25	26	7:55	30
					12:55	32	13:25	37
22	22300		10.0	10.0	4:40	26	5:10	31
					9:15	37	9:45	40
23	19500	49.4			7:30	31	8:00	36
					11:00	29	11:30	40
					13:10	29	13:40	36
24	20100		9.7*	9.8*	7:30	22	8:15	26
					11:45	26	12:15	30
25	19000				7:25	21	7:55	27
					13:45	23	14:13	28
26	16500				7:35	19	8:00	24
					12:30	18	13:00	23
27	15500				7:30	18	7:55	23
					12:01	17	12:53	22
28	15000				7:25	16	7:50	20
					14:05	16	14:30	22
29	14800		8.9	9.2	4:30	20	5:00	25
					9:50	16	10:20	21
30	16600	55.7			7:25	16	7:55	21
					12:45	17	13:15	21

COMMENTS:

*Samples split with State; samples collected after sunrise.

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH MAY 1984

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	HARPER'S COLOR	SIX-MILE TIME	SIX-MILE C[illegible]
31	23500		9.0	8.9	4:20	20	4:50	26
					9:15	20	9:45	[illegible]
					14:10	22	15:10	[illegible]

COMMENTS:

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA

MONTH APRIL 1984

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
4/1	3330							
4/2	3190							
4/3	3200							
4/4	3170	45.7						
4/5	3150							
4/6	3150							
4/7	3420				1050	3	1120	8
					1900	4	1925	9
4/8	3520		8.7	8.8	0526	3	0557	7
					1052	4	1112	7
4/9	3610				0750	5	0820	9
					1320	6	1350	9
4/10	3710		9.8	10.0	0455	6	0525	10
					0940	6	1005	7
					1140	8	1210	12
4/11	3610	43.5			0730	8	0755	12
					1400	1	1430	4
4/12	3540		10.4	10.4	0445	9	0515	11
					1415	10	1435	15
4/13	352[illegible]				0745	8	0815	13
					1400	7	1230	12
4/14	3390				0655	8	0715	13
					1125	6	1145	11
4/15	3350				0730	5	0755	9
					1445	4	1509	10
4/16	3560				0815	4	0840	9
					1445	5	1500	10
4/17	3520				0800	6	0845	12
					1640	9	1655	11
4/18	4130	(Sample Missed)	9.0	8.8	0430	12	0505	15
					1440	13	1500	16
4/19	7700				0700	17	0725	20

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH APRIL 19 84

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
4/19					1400	20	1420	21
4/20	9430		9.8	9.6	0445	19	0523	23
					0930	21	0955	23
4/21	10300				0600	25	0630	27
					1230	27	0255	29
4/22	9640		10.3	10.0	0450	25	0520	29
					0852	24	0910	28
4/23	9330				0805	23	0825	27
					1335	21	1400	25
4/24	9600				1010	21	1030	23
					1415	19	1435	22
					2115	19	2135	24
4/25	8960	46.0			0830	17	0850	21
					1445	19	1510	24
4/26	8280				0742	20	0805	24
					1308	17	1331	23
4/27	7520				0756	14	0821	19
					1335	15	1400	20
4/28	7020				0615	16	0720	21
					1105	16	1130	22
4/29	6630		10.6	10.4	0545	16	0610	22
					1120	15	1145	20
4/30	6270				0750	12	0820	16
					1415	11	1445	18

COMMENTS:

Table 29.5.

CHAMPION
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

Month March 19 84

Day	Flow (cfs)	TEMP. Harper's °F	D.O. (mg/l) Harper's Avg.	Max.	Six-Mile Avg.	Max.	COLOR (SCU) Harper's Avg.	Max.	Six-Mile Avg.	Max.
1	2370									
2	2400									
3	2490									
4	2500									
5	2440									
6	2350									
7	2320	37.9		*		*		8		13
8	2370									
9	2490									
10	2660									
11	2740									
12	2840									
13	2870									
14	2980	41.7								
15	3390									
16	3520									
17	3330									
18	3330									
19	3170									
20	3150									
21	3290	45.0								
22	3710									
23	3680									
24	3590									
25	3650									
26	3630									
27	3610									
28	3540	40.8						8		9
29	3540									
30										
31	3330									

COMMENTS: * The D.O. test results were inadvertently discarded before being recorded. This missing data was not discovered until April.

Table 29.5.

CHAMPION
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

Month February 19 84

Day	Flow (cfs)	TEMP. Harper's °F	D.O. (mg/l) Harper's Avg.	D.O. (mg/l) Harper's Max.	D.O. (mg/l) Six-Mile Avg.	D.O. (mg/l) Six-Mile Max.	COLOR (SCU) Harper's Avg.	COLOR (SCU) Harper's Max.	COLOR (SCU) Six-Mile Avg.	COLOR (SCU) Six-Mile Max.
1	3100	32.8								
2	3010							11		14
3	2820									
4	2840									
5	2820									
6	2740									
7	2740									
8	2730	34.9								
9	2640									
10	2440									
11	2760									
12	2640									
13	2640									
14	2730									
15	3100	35.6		11.5		11.8		7		10
16	2740									
17	2780									
18	2660									
19	2550									
20	2500									
21	2500									
22	2580	36.4								
23	2500									
24	2430									
25	2410									
26	2410									
27	2350									
28	2320									
29	2350	37.8						5		9
30										
31										

COMMENTS:

Table 29.5.

CHAMPION
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

Month January 19 84

Day	Flow (cfs)	TEMP. Harper's °F	D.O. (mg/l) Harper's Avg.	D.O. (mg/l) Harper's Max.	D.O. (mg/l) Six-Mile Avg.	D.O. (mg/l) Six-Mile Max.	COLOR (SCU) Harper's Avg.	COLOR (SCU) Harper's Max.	COLOR (SCU) Six-Mile Avg.	COLOR (SCU) Six-Mile Max.
1	2380									
2	2290									
3	2450									
4	2680	32.0								
5	4090									
6	4790									
7	8280									
8	7080									
9	5630									
10	4770									
11	4330	32.8		11.9		11.8		13		16
12	4110									
13	3870									
14	3100									
15	2530									
16	2190									
17	2230									
18	1950	32.0								
19	1740									
20	1750									
21	1790									
22	2310									
23	2790							6		10
24	2980									
25	3850	33.8								
26	3850									
27	3870									
28	4030									
29	3850									
30	3570									
31	3240									

COMMENTS:

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA

MONTH September 19 85

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLC
9-1-85	1709				6:50	6	7:20	9
9-2	1696				6:50	6	7:20	9
9-3	1696				6:55	6	7:20	9
9-4	1696	60.8	7.6	7.1	6:00	6	6:25	9
9-5	1683				7:00	6	7:25	9
9-6	1813		7.2	7.6	6:05	5	6:30	8
9-7	2496				6:30	6	6:50	8
					12:50	7	13:15	10
9-8	2659		8.4	8.6	6:20	9	6:50	13
					10:40	8	11:20	13
9-9	3145				8:45	9	9:15	11
					15:40	10	16:05	13
9-10	3200		8.4	8.4	6:15	10	6:45	14
					11:00	9	11:20	14
9-11	3387	58.5			7:00	9	7:20	12
					12:55	8	13:20	11
9-12	3700		7.8	7.9	6:10	8	6:35	12
					10:15	8	10:45	12
9-13	5130				7:00	14	7:25	17
					12:55	13	13:20	17
9-14	5154		8.5	8.5	6:40	14	7:05	18
					12:10	13	12:35	17
9-15	4736				7:30	11	7:55	15
					11:05	11	11:30	15
9-16	4783		8.6	8.5	6:15	10	6:40	14
					10:20	10	10:45	14
9-17	4667				6:55	10	7:20	15
					10:50	11	11:20	15
9-18	4598	50.9	9.0	9.0	6:15	9	6:40	12
					10:15	9	10:40	12
9-19	4621				7:40	8	8:05	13
					13:00	8	13:20	12

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH September 1985

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
20	4463		9.3	9.4	6:20	7	6:50	11
					11:00	7	11:20	11
21	4221		8.8	9.1	6:55	7	7:20	11
					12:05	7	12:30	11
22	4178				5:00	6	5:45	12
					21:00	7	21:30	11
23	4071		9.2	9.1	6:30	7	7:00	12
					14:35	6	15:15	10
24	4071				7:25	6	8:10	9
					13:05	5	13:30	8
25	3945	50.0	9.1	9.2	6:40	6	7:00	9
					13:40	7	14:10	12
26	3740				7:40	6	8:15	11
					14:20	6	14:40	11
27	3680		8.8	8.8	6:45	6	7:15	10
					13:05	5	13:25	9
28	3561				6:50	5	7:30	9
					11:18	5	11:37	10
29	3445		10.0	9.9	6:30	5	7:11	9
					11:11	5	11:33	9
30	3406				9:00	5	9:25	9
					11:10	5	11:35	9

MENTS:

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER NUTRIENT DATA

MONTH September 19 85

DAY	TOTAL KJELDAHL NITROGEN (mg/l) HARPER'S	SIX-MILE	TOTAL PHOSPHORUS (mg/l) HARPER'S	SIX-MILE	NITRATE (mg/l) HARPER'S	SIX-MILE	NITRITE (mg/l) HARPER'S	SIX-MILE
1								
2	N.D.	0.82	0.13	0.11	0.07	0.04	< 0.01	< 0.01
3								
4								
5								
6								
7								
8								
9	0.34	0.41			0.08	0.08	< 0.01	< 0.01
10			0.04	0.12				
11								
12								
13								
14								
15								
16	0.35	0.46	N.D.	0.02	0.09	0.08	< 0.01	< 0.01
17								
18								
19								
20								
21								
22								
23								
24	0.33	0.34	0.05	0.10	0.07	0.06	< 0.01	< 0.01
25								
26								
27								
28								
29								
30								
31								

COMMENTS:

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH August 1985

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
8-1	1310				7:00	6	7:25	10
8-2	1118				7:05	6	7:30	10
8-3	1524				7:00	7	7:25	10
8-4	1893				7:00	8	7:25	10
8-5	1975				7:05	10	7:25	11
8-6	1989		6.8	7.2	5:20	10	5:45	12
8-7	1975	63.9			7:05	8	7:30	11
8-8	1893		6.7	7.2	7:05	8	7:30	11
8-9	1893				8:50	7	9:15	10
8-10	1826				7:35	6	8:00	9
8-11	2017		8.8*	8.0	6:25	6	6:55	9
					13:30	6	14:00	8
8-12	2249		7.9	8.3	5:45	7	6:10	10
					13:30	7	14:00	10
8-13	2609				7:50	7	8:10	10
					14:30	7	15:15	11
8-14	2708	59.8	7.8	8.1	5:30	9	6:00	13
					10:00	8	10:25	12
8-15	2642				7:25	8	7:50	12
					14:15	7	14:50	11
8-16	2544		7.6	8.0	5:45	8	6:15	12
					10:20	7	10:40	11
8-17	2528				5:40	8	6:05	12
					9:35	7	10:00	11
8-18	2449		7.4	7.6	5:45	6	6:15	11
					9:40	6	10:05	11
8-19	2371				7:00	5	7:25	9
					11:00	5	11:25	9
8-20	2340		7.0	7.2	5:40	5	6:05	8
					9:40	5	10:05	8
8-21	2544	58.9			7:05	6	7:30	9
					11:05	5	11:30	9

* Air bubbles in bottle, inaccurate results

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH August 19 85

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
8-22	2544		7.6	7.8	5:45	5	6:10	9
					9:45	5	10:10	[illegible]
8-23	2449				6:55	6	7:20	10
					10:55	6	11:20	10
8-24	235[illegible]		7.2	7.5	5:45	4	6:15	9
					11:30	5	11:55	9
8-25	2234				6:40	6	7:00	10
					12:00	5	12:30	9
8-26	2190		6.8	7.2	5:50	5	6:15	10
8-27	2102				6:[illegible]5	5	7:20	8
8-28	2074	63.3			7:00	4	7:25	6
8-29	1947				7:10	5	7:35	8
8-30	1799		6.5	7.2	5:55	6	6:20	9
8-31	1773				6:55	5	7:20	8

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER NUTRIENT DATA

MONTH August 1985

DAY	TOTAL KJELDAHL NITROGEN (mg/l) HARPER'S	SIX-MILE	TOTAL PHOSPHORUS (mg/l) HARPER'S	SIX-MILE	NITRATE (mg/l) HARPER'S	SIX-MILE	NITRITE (mg/l) HARPER'S	SIX-MILE
1								
2								
3								
4								
5	0.43	0.45	0.90	0.60	0.12	0.09	< 0.01	< 0.01
6								
7								
8								
9								
10								
11								
12	0.40	0.44	.08	0.09	0.09	0.09	< 0.01	< 0.01
13								
14								
15								
16								
17								
18								
19								
20	0.18	0.18	0.14	0.14	0.09	0.08	< 0.01	< 0.01
21								
22								
23								
24								
25								
26	0.36	0.36	0.19	0.20	0.12	0.09	< 0.01	< 0.01
27								
28								
29								
30								
31								

COMMENTS:

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH July 19 85

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
7-1-85	3274		7.2	7.2	4:40	7	5:10	11
					8:45	8	9:10	11
7-2-85	3109				6:40	6	7:05	11
					12:40	6	13:05	10
7-3-85	2948	67.8	6.9	7.0	4:50	7	5:15	10
7-4-85	2759				6:45	7	7:05	9
7-5-85	2642				6:45	8	7:05	10
7-6-85	2544				6:45	8	7:05	10
7-7-85	2418				6:45	8	7:05	10
7-8-85	2340				9:30	7	10:05	9
7-9-85	2371		6.7	6.8	5:10	8	5:35	10
7-10-85	2160	66.3			11:35	6	12:00	9
7-11-85	2102				10:00	7	10:20	8
7-12-85	2031				9:05	7	9:35	10
7-13-85	1893				10:00	7	10:25	10
7-14-85	1879				8:45	6	9:08	9
7-15-85	1813				7:00	2	7:25	5
7-16-85	1799		6.7	7.0	4:57	8	5:25	10
7-17-85	1709	66.3			7:00	8	7:25	11
7-18-85	1773				7:00	7	7:25	10
7-19-85	1683				7:00	8	7:25	10
7-20-85	1646				4:00	7	4:30	8
7-21-85	1572				13:15	8	13:45	10
7-22-85	1524				7:30	6	7:55	9
7-23-85	1476		6.8	7.0	5:05	7	5:30	10
7-24-85	1442	67.2			7:00	7	7:25	9
7-25-85	1406				7:05	5	7:30	8
7-26-85	1394				7:05	7	7:30	10
7-27-85	1382				8:20	5	8:40	9
7-28-85	1334				8:18	6	8:38	9
7-29-85	1334				7:00	6	7:25	10
7-30-85	1358		6.6	7.0	5:15	6	5:45	9

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH July 1985

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l)		COLOR (SCU)			
					HARPER'S		SIX-MILE	
			HARPER'S	SIX-MILE	TIME	COLOR	TIME	COLOR
7-31-85	1334	64.0			7:00	7	7:25	10

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER NUTRIENT DATA

MONTH July 1985

DAY	TOTAL KJELDAHL NITROGEN (mg/l)		TOTAL PHOSPHORUS (mg/l)		NITRATE (mg/l)		NITRITE (mg/l)	
	HARPER'S	SIX-MILE	HARPER'S	SIX-MILE	HARPER'S	SIX-MILE	HARPER'S	SIX-MILE
1	0.52	0.48	N.D.	N.D.	0.08	0.07	< 0.01	< 0.01
2								
3								
4								
5								
6								
7								
8	1.09	0.59	N.D.	0.05	0.08	0.06	< 0.01	< 0.01
9								
10								
11								
12								
13								
14								
15								
16	0.40	0.39	0.07	0.05	0.10	0.10	< 0.01	< 0.01
17								
18								
19								
20								
21								
22	0.38	0.30	0.10	0.09	0.13	0.09	< 0.01	< 0.01
23								
24								
25								
26								
27								
28								
29	0.38	0.31	0.16	0.08	0.16	0.05	< 0.01	< 0.01
30								
31								

COMMENTS:

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA

MONTH June 1985

ATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
/1	13270				6:45	15	7:05	19
					12:40	15	13:00	20
/2	12290				6:30	13	6:40	19
					12:10	14	12:30	20
/3	13310				6:55	13	7:20	18
					10:55	15	11:20	19
/4	11980				6:50	14	7:15	19
					10:50	10	11:15	15
/5	11460	51.8			6:50	13	7:20	16
					12:55	13	13:20	18
/6	11830				7:00	12	7:35	16
					11:00	11	11:25	15
/7	13230		9.3	9.3	4:40	12	5:05	16
					8:40	11	9:05	16
8	15970				6:30	9	6:55	12
					11:00	16	11:25	20
9	16200		9.2	9.1	4:40	17	5:05	22
					10:44	16	11:05	21
10	13350				6:45	13	7:10	17
					10:45	12	11:10	17
11	11380		8.7	8.9	4:40	11	5:05	15
					8:45	10	9:10	15
12	11020	54.2			6:55	11	7:20	14
					12:35	11	13:00	14
13	13430		8.4	8.5	5:00	10	5:25	13
					9:05	10	9:25	14
14	9564				7:40	8	8:05	12
					14:30	9	14:50	13
15	9008		8.4	8.6	5:30	10	6:00	13
					11:30	9	12:00	13
16	8658				7:10	10	7:30	13

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (Continued)

MONTH June 19 85

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l)		COLOR (SCU)			
			HARPER'S	SIX-MILE	HARPER'S		SIX-MILE	
					TIME	COLOR	TIME	COLOR
6/16					14:10	10	14:30	13
6/17	8255		8.3	8.4	4:40	9	5:05	10
					9:10	8	9:35	9
6/18	75[illegible]8				6:40	9	7:05	9
					10:40	8	11:05	9
6/19	7138	56.5	8.0	7.9	4:40	9	5:05	11
					8:40	9	9:05	12
6/20	6695				6:45	3	7:10	5
					10:45	2	11:10	5
6/21	6400		7.7	7.8	4:40	3	5:05	6
					8:40	3	9:05	5
6/22	5934				7:10	7	7:30	10
					11:10	8	11:35	10
6/23	5415		7.8	7.8	5:10	8	5:30	11
					9:45	7	10:05	11
6/24	5084				6:50	8	7:15	12
					12:50	7	13:15	12
6/25	4690		8.0	8.0	4:42	7	5:07	10
					8:45	7	9:10	11
6/26	4156	58.6			6:50	1	7:15	4
					13:05	7	13:30	10
6/27	3903		8.0	8.1	4:45	7	5:10	11
					8:45	6	9:10	10
6/28	3760				6:45	6	7:10	11
					12:35	7	13:00	11
6/29	3541		7.4	7.4	4:45	6	5:18	10
					9:45	7	10:05	11
6/30	3425				6:23	7	6:46	11
					11:59	7	12:24	10

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA

MONTH May 19 85

ATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
5/1	6943	53.2	8.8	8.8	5:15	12	5:45	16
					9:15	13	9:40	17
5/2	8721				6:55	13	7:20	17
					13:15	15	13:45	20
5/3	11720		9.0	8.7	5:20	16	5:45	19
					9:20	17	9:45	21
5/4	15010				7:10	20	7:30	23
					13:05	21	13:25	25
5/5	15800		10.0	10.0	5:25	20	5:55	24
					10:00	21	10:20	26
5/6	13350				7:00	17	7:25	22
					11:00	17	11:25	22
5/7	11720				6:55	15	7:20	20
					12:50	14	13:15	18
5/8	11350	44.7			6:50	15	7:15	19
					10:55	15	11:20	19
5/9	12090				7:30	14	7:55	18
					12:48	15	13:15	20
5/10	12130				7:45	14	8:10	19
					12:15	14	12:40	19
5/11	11350				6:40	14	7:05	18
					10:55	14	11:25	19
5/12	10590		10.0	10.0	5:20	12	5:55	16
					10:20	11	10:45	16
5/13	11350				7:00	11	7:25	16
					11:00	11	11:25	16
5/14	9040				7:00	11	7:15	16
					11:00	12	11:25	16
5/15	8721	50.2			6:50	10	7:15	14
					10:50	10	11:15	14
5/16	8502				6:55	11	7:20	16
					10:55	11	11:20	15

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH May 1985

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
5/17	9366		8.8	8.8	5:00	12	5:25	16
					9:00	12	9:25	16
5/18	10590				5:25	13	5:45	18
					9:40	14	10:00	18
5/19	11750		8.5	8.5	5:25	13	5:45	18
					9:25	14	9:50	18
5/20	13670				6:55	16	7:20	21
					10:55	15	11:20	19
5/21	14710		9.2	9.2	4:50	16	5:15	21
					9:30	17	9:55	21
5/22	16240	45.4			7:00	18	7:25	23
					11:00	18	11:25	22
5/23	16880		9.0	9.0	4:50	17	5:15	21
					10:30	16	10:45	21
5/24	18340				6:50	17	7:15	22
					10:55	17	11:20	21
5/25	19620		9.2	8.9	6:15	20	6:45	25
					11:30	19	12:15	24
5/26	20270				7:00	22	7:30	26
					13:40	20	14:15	25
5/27	18190		9.0	9.0	6:15	18	6:40	24
					13:00	18	13:15	23
5/28	16020				6:55	16	7:20	21
					10:55	16	11:20	22
5/29	15310	52.6	9.0	9.1	4:50	14	5:10	19
					9:45	14	10:10	19
5/30	15270				6:55	14	7:20	17
					10:55	14	11:20	18
5/31	14710		10.0	10.0	4:45	16	5:10	20
					9:00	16	9:25	20

Table 29.5.

Champion

Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH APRIL 19 85

ATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
1	2465				7:00	6	7:25	10
					11:00	6	11:30	10
2	2690				7:00	6	7:25	10
					11:00	7	11:25	11
3	3445	48.0			7:00	10	7:25	11
					13:35	12	14:15	14
4	4156		10.0	9.8	5:10	17	5:40	21
					9:30	17	10:00	21
5	3821				5:50	20	6:18	24
					11:15	19	11:35	24
6	3561		10.0	9.9	5:25	15	5:55	19
					9:50	14	10:20	19
7	3541				5:45	12	6:10	16
					9:50	11	10:15	16
8	3541		9.8	9.7	4:45	11	5:15	15
					9:10	11	9:45	15
9	3561				6:50	10	7:20	15
					10:50	10	11:20	15
10	3987	49.6	9.5	9.5	5:55	10	6:20	14
					9:00	10	9:30	14
1	4783				7:00	13	7:30	17
					11:00	13	11:25	17
2	6036		9.7	9.4	4:55	16	5:25	18
					9:00	17	9:25	19
3	6454				7:10	17	7:30	21
					11:15	18	11:35	22
4	7026		9.5	9.5	5:00	18	5:30	22
					10:20	18	10:40	22
5	8103				7:00	18	7:30	21
					11:50	19	12:50	22
6	9564		9.7	9.6	4:50	18	5:20	23
					8:50	18	9:30	22

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA ([illegible]T.)

MONTH APRIL 19[illegible]

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
17	10350	51.1			6:[illegible]0	20	7:20	[illegible]
					10:50	21	11:20	5
18	10840		9.7	9.7	4:45	18	5:10	[illegible]
					9:00	18	9:25	23
19	11200				6:45	18	7:10	22
					10:45	18	11:10	23
20	10630		10.4	10.5	5:15	17	5:40	22
					11:05	17	11:30	22
21	9300				7:[illegible]5	16	8:05	20
					11:25	16	11:47	19
22	8316		10.6	10.5	4:40	14	5:10	18
					9:00	14	9:25	18
23	7539				6:55	12	7:20	17
					10:55	12	11:20	17
24	7138	41.1			6:55	11	7:20	16
					10:55	12	11:20	16
25	6587				6:55	12	7:20	16
					11:10	12	11:40	18
26	5934				6:55	11	7:30	15
					10:55	10	11:20	15
27	5536				7:06	10	7:27	14
					11:10	10	11:30	16
28	5463				7:05	10	7:25	14
					11:05	9	11:25	14
29	5463		9.2	9.3	5:25	10	5:55	14
					9:25	10	9:55	15
30	6139				6:55	11	7:20	14
					11:00	11	11:20	15

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH MARCH 1985

ATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR	SIX-MILE TIME	COLOR
1	2234		11.3	11.4	6:45	8	7:15	11
					10:45	7	11:15	11
2	2418				5:00	9	5:30	12
					9:15	9	9:45	13
3	2294				6:30	12	7:00	15
					11:15	11	11:45	13
4	2059				7:05	12	7:35	17
					13:00	12	13:30	17
5	1947				7:05	8	7:35	14
					12:55	5	13:25	9
6	2031	38.9			7:10	6	7:40	11
					11:00	7	11:30	11
7	1975				7:10	5	7:40	10
					11:00	4	11:30	8
8	1989		11.5	11.4	6:15	4	6:45	8
					10:15	4	10:45	9
9	1920				6:25	4	6:45	8
					10:55	4	11:20	7
0	1975				6:25	4	6:55	9
					10:40	4	11:00	8
1	2059				6:30	2	7:00	7
					11:00	5	11:20	9
2	2059				7:00	5	7:30	11
					12:45	5	13:15	8
3	2146	37.3	11.1	11.0	5:30	6	6:00	10
					11:10	5	11:40	9
4	2205				8:15	7	8:40	10
					13:05	6	13:35	10
5	2294				8:35	7	9:15	11
					12:35	7	13:05	11
6	2481				7:00	8	7:20	12
					12:25	8	13:00	12

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH MARCH 19 85

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
17	2496				6:40	10	7:00	14
					11:30	11	11:50	14
18	2659				7:05	13	7:30	16
					11:00	12	11:30	16
19	2827				6:55	14	7:25	18
					11:05	15	11:30	19
20	3001	39.0			7:10	16	7:40	20
					11:00	17	11:25	21
21	3163				7:00	17	7:30	21
					11:00	17	11:25	21
22	3037		10.9	10.9	5:30	18	6:00	21
					9:35	16	10:00	19
23	2879				7:15	15	7:40	19
					12:00	15	12:25	19
24	2642				7:25	11	7:45	17
					12:40	11	13:20	17
25	2692				7:00	9	7:30	13
					11:25	10	11:40	15
26	2659				6:55	9	7:25	12
					10:55	8	11:25	12
27	2561	40.6			7:05	8	7:30	12
					11:00	8	11:25	13
28	2481				7:05	8	7:35	13
					10:55	8	11:20	12
29	2402		10.7	10.6	5:40	7	6:10	11
					10:00	7	10:30	12
30	2340				6:10	7	6:50	11
					11:50	8	12:15	13
31	2356				6:30	7	7:10	11
					11:30	6	12:00	10

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

DIRECT DISCHARGE SUMMARY

MONTH MARCH 19 85

RIVER			DISCHARGE			
DATE	TIME	△ COLOR (SCU)	TIME	OUTFALL	FLOW (CFS)	FLOW CHANGED TO (CFS)
1	6:45	3	8:05	003	0.5	No Change (NC)
	10:45	4	13:30	003	0.6	NC
2	5:00	3	6:00	003	0.6	NC
	9:15	4	11:00	003	0.6	NC
3	6:30	3	9:00	003	0.6	0.8
	11:15	2	14:45	003	0.9	1.6
4	7:05	5	8:05	003	1.4	1.0
	13:00	5	14:10	003	1.0	NC
5	7:05	6	8:20	003	1.0	0.7
	12:55	4	15:35	003	0.7	NC
6	7:10	5	8:50	003	0.7	NC
	11:00	4	13:30	003	0.7	NC
7	7:10	5	8:15	003	0.6	NC
	11:00	4	14:30	003	0.6	0.5
8	6:15	4	8:00	003	0.5	NC
	11:15	5	13:30	003	0.5	0.4
9	6:25	4	8:45	003	0.4	NC
	10:55	3	13:50	003	0.4	NC
10	6:25	5	8:45	003	0.4	NC
	10:40	4	13:40	003	0.4	NC
11	6:30	5	8:05	003	0.4	NC
	11:00	4	13:25	003	0.4	NC
12	7:00	6	8:15	003	0.4	0.4*
	12:45	3	14:30	003	0.4	NC
13	5:30	4	7:35	003	0.4	NC
	11:10	4	14:30	003	0.4	NC
14	8:15	3	9:30	003	0.4	NC
	13:05	4	14:30	003	0.4	NC
15	8:35	4	10:30	003	0.4	NC
	12:35	4	14:45	003	0.4	NC
16	7:00	4	9:30	003	0.4	1.0

*Slight cut made.

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

DIRECT DISCHARGE SUMMARY - CONTINUED

MONTH MARCH 1985

RIVER			DISCHARGE			
DATE	TIME	△ COLOR (SCU)	TIME	OUTFALL	FLOW (CFS)	FLOW CHANGED TO (CFS)
16	12:35	4				
17	6:40	4	8:10	003	1.3	2.8
	11:30	3				
18	7:05	3	8:15	003	2.8	NC
	11:00	4	13:30	003	2.8	NC
19	6:55	4	8:00	003	2.7	NC
	11:05	4	14:00	003	2.7	NC
20	7:10	4	8:40	003	2.7	NC
	11:00	4	13:30	003	2.7	NC
21	7:00	4	8:30	003	2.7	NC
	11:00	4	13:30	003	2.7	NC
22	5:30	3	7:30	003	2.8	NC
	9:35	3	11:30	003	2.8	3.6
23	7:15	4	9:12	004	3.6	NC
	12:00	4	13:30	003	3.6	NC
24	7:25	6	9:18	003	3.6	3.0
	12:40	6	14:10	003	3.0	2.7
25	7:00	4	8:20	003	2.7	NC
	11:25	5	13:50	003	2.7	2.2
26	6:55	3	8:00	003	2.2	NC
	10:55	4	13:10	003	2.2	NC
27	7:05	4	8:15	003	2.2	NC
	11:00	5	14:00	003	2.2	1.8
28	7:05	5	8:15	003	1.8	NC
	10:55	4	13:25	003	1.8	1.6
29	5:40	4	7:30	003	1.7	NC
	10:00	5	12:35	003	1.7	1.3
30	6:10	4	9:00	003	1.4	NC
	11:50	5	15:45	003	1.3	1.2
31	6:30	4	10:00	003	1.2	NC
	11:30	4	14:00	003	1.1	NC

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

DIRECT DISCHARGE DATA
OUTFALL 003

MONTH MARCH 19 85

DAY	AVG FLOW (CFS)	BOD (mg/l)	TSS (mg/l)	COLOR (SCU)	TOTAL KJELDAHL NITROGEN (mg/l)	NITRATE (mg/l)	NITRITE (mg/l)	TOTAL PHOSPHORUS (mg/l)	pH
1	0.5	66	50						
2	0.7	73	62						
3	1.3	67	62		16.24	ND	<0.01	3.75	
4	1.0	69	58	1390					7.3
5	0.7	49	56						
6	0.7	63	58						
7	0.5	57	56						
8	0.5	72	62						
9	0.5	71	38						
10	0.4	80	28	1550	17.78	ND	<0.01	3.81	7.4
11	0.3	73	80						
12	0.4	74	50						
13	0.5	67	44						
14	0.4	75	48						
15	0.4	42**	16**						
6	1.0	69	76						
7	2.8	74	32	1540	17.70	<0.01	<0.01	3.47	7.8
8	2.8	75	52						
9	2.8	69	24						
0	2.8	61	52						
1	2.6	74	72						
2	3.7	72	78						
3	3.6	73	64						
4	2.6	77	68	1300	15.99	0.03	0.02	3.30	7.6
5	2.3	76	52						
6	2.2	72	94						
7	1.9	74	70						
8	1.6	76	60						
9	1.5	76	52						
)	1.3	77	46						
1	1.1	79	62	1540	16.38	ND	0.02	3.19	-*
Average	1.5	71	57	1464	508 16.32	<.03		3.50	

*Test missed.
**Grab sample.

Table 29.5.

Champion

Champion International Corporation

Frenchtown Mill

DIRECT DISCHARGE DATA - OUTFALL 004

MONTH MARCH 19 85

DATE	AVERAGE FLOW (CFS)	AVERAGE TEMPERATURE (°F)	pH
1	10.7	52	
2	12.3	63	
3	12.7	69	
4	12.3	71	
5	13.4	74	
6	12.9	75	8.4
7	12.0	73	
8	11.8	74	
9	11.8	76	
10	10.7	73	
11	9.4	73	
12	9.1	69	
13	10.5	70	8.0
14	10.0	74	
15	10.2	74	
16	11.1	74	
17	11.1	77	
18	12.0	78	
19	7.6	75	
20	4.2	60	8.3
21	4.7	49	
22	4.5	45	
23	3.8	51	
24	3.1	42	
25	2.9	39	
26	3.1	39	
27	3.6	39	8.5
28	12.5	40	
29	13.6	70	
30	12.5	74	
31	13.1	73	

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH FEBRUARY 19 85

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/1) HARPER'S	DISSOLVED OXYGEN (mg/1) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
1	1142				7:15	2	7:45	7
2	914				8:47	3	9:09	8
3	1082				9:33	3	9:56	8
4	1058				7:45	3	8:15	8
5	1262				7:20	3	7:50	7
6	1465	32.0	12.0	12.4	7:05	3	7:35	7
7	1658				7:20	3	7:50	6
8	1786				7:20	2	7:55	6
9	1852				7:15	2	7:45	6
10	1852				7:25	2	7:50	6
11	1893				6:45	5	7:15	6
12	2017				7:20	1	7:50	4
					13:00	2	13:25	5
13	1879	32.0			7:15	3	7:45	8
14	1906				7:20	3	7:50	6
					13:20	3	13:50	6
15	1961		12.0	12.0	6:55	4	7:25	8
					11:02	4	11:30	9
16	1989				8:25	3	8:50	7
					12:37	4	13:18	9
17	1961				8:30	6	9:00	10
					12:30	6	12:55	10
18	1989				7:25	7	7:55	11
					11:10	7	11:40	12
19	1893				7:20	6	7:50	11
20	2017	32.7			7:15	4	7:45	8
					13:05	4	13:35	8
21	2017				7:15	4	7:45	8
					11:00	5	11:20	9
22	2003		11.5	11.7	6:50	4	7:20	8
					10:50	4	11:20	8
23	2003				6:15	3	6:40	7

Table 29.5.

Champion

Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH FEBRUARY 1985

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l)		COLOR (SCU)			
					HARPER'S		SIX-MILE	
			HARPER'S	SIX-MILE	TIME	COLOR	TIME	COLOR
23					10:20	5	10:40	9
24	2031				7:15	2	7:45	6
					12:05	5	12:35	9
25	2310				7:20	7	7:40	7
					10:45	7	11:10	9
26	2234				7:10	13	7:40	19
					13:05	12	13:30	17
27	2175	35.6			7:10	11	7:40	16
					11:00	11	11:25	16
28	2146				7:15	9	7:35	13
					11:00	8	11:30	13

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA

MONTH JANUARY 1985

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/l) HARPER'S	DISSOLVED OXYGEN (mg/l) SIX-MILE	COLOR (SCU) HARPER'S TIME	COLOR (SCU) HARPER'S COLOR	COLOR (SCU) SIX-MILE TIME	COLOR (SCU) SIX-MILE COLOR
1	2102				7:51	3	8:15	7
					12:01	3	12:53	9
2	1906				9:20	4	9:45	8
	1947				13:45	3	14:10	8
3	1893				7:05	3	7:50	7
4	1920				7:15	3	7:45	6
					13:35	3	14:05	6
5	1760				8:15	3	8:40	7
6	1760				8:50	3	9:15	6
7	1839				7:20	3	7:50	6
8	2059		12.6	12.3	8:50	2	9:15	5
	2117				13:15	3	13:45	6
9	2045	33.8			7:15	3	7:35	6
					11:10	3	11:40	7
10	1893				7:10	3	7:40	7
	1879							
11	1852				7:15	4	7:45	7
12	1826				8:15	3	9:00	5
13	1786				9:10	4	9:40	7
14	1476				8:25	3	8:55	7
15	1813				7:05	3	7:35	7
	1947				14:30	2	15:10	6
16	1893	32.0	12.2	12.3	7:15	3	7:35	6
17	2074				7:05	3	7:35	6
					13:05	2	13:35	6
18	2264		12.0	12.1	7:00	4	7:30	8
					10:55	4	11:20	10
					13:15	3	13:40	7
19	2496				6:30	3	7:30	6
					13:50	3	14:15	7
20	2642				7:00	6	8:00	9
					13:00	6	13:30	9

Table 29.5.

Champion
Champion International Corporation
Frenchtown Mill

CLARK FORK RIVER DATA (CONT.)

MONTH JANUARY 19 85

DATE	FLOW (cfs)	TEMPERATURE HARPER'S (°F)	DISSOLVED OXYGEN (mg/1)		COLOR (SCU)			
			HARPER'S	SIX-MILE	HARPER'S TIME	HARPER'S COLOR	SIX-MILE TIME	SIX-MILE COLOR
21	2433				7:15	11	7:45	14
					11:00	11	11:25	15
22	2190				7:15	4	7:45	9
					10:50	6	11:30	10
23	1879	34.0			8:20	5	8:50	10
24	1879				7:10	5	7:40	8
25	1747		12.2	12.6	7:00	4	7:30	7
26	1839				7:20	4	7:50	8
27	1773				7:25	3	7:55	6
28	1975				7:30	4	8:00	7
	1975							
29	2017		11.9	12.2	7:00	4	7:30	7
					13:35	4	14:05	7
30	1709	32.0	12.2	12.4	7:00	3	7:30	7
31	1406				7:30	3	8:00	7

COMMENTS:

Drawer D
Missoula, Montana [illegible]
406 [illegible]

Table 29.5.

Champion
Champion International Corporation

October 3, 1984

Mr. Steve Pilcher, Chief
Water Quality Bureau, DHES
Cogswell Building
Helena, MT 59620

Dear Mr. Pilcher:

Yearly information on an effluent system for the period July 15, 1983 through July 31, 1984 is as follows:

1. Total volume of effluent discharged during pond dumping was 1814.4 X 10^6 gallons, 30.0 percent of total effluent volume.

2. BOD_5 discharged to the Clark Fork River by percolation, infiltration and direct discharge totalled 1,133,600 lbs.

3. Pond dumping resulted in a discharge of 1,447,800 lbs. of total suspended solids.

4. Effluent disposed of by infiltration was 1162.6 X 10^6 gallons, 19.2 percent of the total effluent volume.

5. Volume disposed of through evaporation and percolation was 3052.3 X 10^6 gallons, 50.5 percent of the total effluent volume.

6. BOD_5 reduction from the total effluent treatment system was 96.2 percent.

The attached information details the calculations made to derive the values listed above.

Please contact me if you have any questions concerning this report.

Sincerely,

Bill Henderson

Bill Henderson
Environmental Supervisor

sp
Attachment
c: Potts
Marxer ⟶ Kohl
Ford
Pavlick
Weeks
Brown
Kulawinski

Volume remaining July 15, 1983 = 122.8×10^6 gallons.

Volume remaining July 31, 1984 = 142.7×10^6 gallons.

Total effluent flow July 15, 1983 $\longrightarrow$ July 31, 1984 = 6049.2×10^6 gallons

Total pounds Na_2SO_4 in effluent = 82.6×10^6 lbs.

Test well data, 12-month cumulative average:

BOD_5 (mg/l) = 8

Na_2SO_4 (mg/l) = 1170

Pond data, 12-month cumulative average:

Na_2SO_4 (mg/l) = 1730

Total effluent volume to rapid infiltration:

July 15, 1983 $\longrightarrow$ July 31, 1984 = 1162.6×10^6 gallons.

Average effluent Na_2SO_4 concentration =

$$\frac{\text{Total } Na_2SO_4 \text{ in effluent}}{\text{Total effluent volume}} =$$

$$\frac{82.6 \times 10^6 \text{ lbs.}}{6049.2 \times 10^6 \text{ gallons}} \times \frac{1 \text{ ppm}}{8.34 \times 10^{-6} \text{lbs./gal.}} = 1640 \text{ ppm}$$

$$\text{Percent Evaporation} = 1 - \frac{\text{Average effluent } Na_2SO_4 \text{ concentration}}{\text{Average pond } Na_2SO_4 \text{ concentration}}$$

$$= 1 - \frac{1640}{1730}$$

$$= 0.05$$

Volume Percolated and Evaporated = Pond volume on 7/15/83

+ Total effluent flow

- Volume infiltrated

- Volume direct discharged

- Pond volume on 7/31/84

$= (122.8 + 6049.2 - 1162.6 - 1814.4 - 142.7) \times 10^6$ gallons

$= 3052.3 \times 10^6$ gallons

5. Evaporation:

Volume evaporated = (Total effluent flow + pond volume on 7/15/83) X 0.05

= (6049.2 + 122.8) X 0.05

= 308.6 X 10^6 gallons

Volume percolated = (3052.3 - 308.6) X 10^6

= 2743.7 X 10^6

BOD_5 Discharged by percolation and infiltration =

$$\frac{\text{Average pond } Na_2SO_4}{\text{Average test well } Na_2SO_4} \times \text{Average Test Well } BOD_5$$

X (volume infiltrated + volume percolated)

$$\times \frac{8.34 \times 10^{-6} \text{ lbs./gal.}}{1 \text{ ppm}}$$

$$= \frac{1730}{1170} \times 8 \times [(1162.6 + 2743.7) \times 10^6 \text{ gallons}]$$

$$\times \frac{8.34 \times 10^{-6} \text{ lbs./gal.}}{\text{ppm}}$$

= 385,400 lbs.

BOD Direct Discharged = 748,200 lbs.

Total BOD_5 Discharged = 1,133,600

FIGURE I EFFLUENT FLOW 1983-1984 DISCHARGE SEASON

Table 29.5.

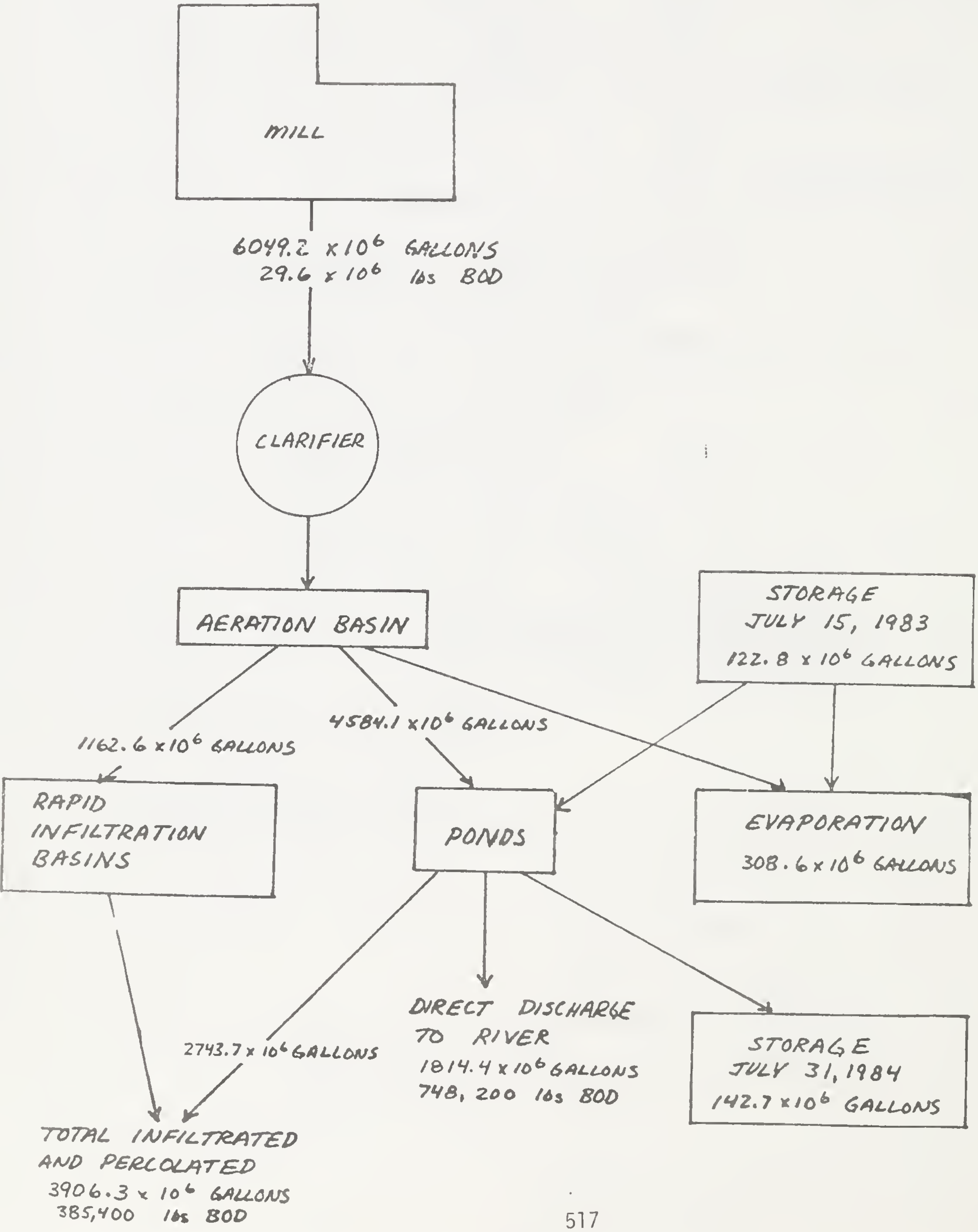


Table 29.5.

Champion
Champion International Corporation

September 3, 1985

Mr. Steve Pilcher, Chief
Water Quality Bureau, DHES
Cogswell Building
Helena, MT 59620

Dear Mr. Pilcher:

Yearly information on our effluent system for the period July 1, 1984 through June 30, 1985 is as follows:

1. Total volume of effluent discharged during pond dumping was 2172.9 X 10^6 gallons, 39.2 percent of total effluent volume.

2. BOD_5 discharged to the Clark Fork River by percolation, infiltration and direct discharge totalled 1,464,850 lbs.

3. Pond dumping resulted in a discharge of 1,520,340 lbs of total suspended solids.

4. Effluent disposed of by infiltration was 775.2 X 10^6 gallons, 14.0 percent of the total effluent volume.

5. Volume disposed of through evaporation and percolation was 2589.5 X 10^6 gallons, 46.8 percent of the total effluent volume.

6. BOD_5 reduction from the total effluent treatment system was 95.1 percent.

Normal calculation of percent evaporation by using sodium concentration in the effluent leaving the mill compared to sodium concentration in the storage ponds did not give a realistic value. Therefore, a mass balance around the effluent treatment system was done to calculate a volume combining percolation and evaporation. In order to calculate a BOD_5 value for percolation, a 10% evaporation was assumed.

The attached information details the calculations made to derive the values listed.

Please contact me if you have any questions concerning this report.

Sincerely,

Bill Henderson

Bill Henderson
Environmental Supervisor

kj
c: Potts, Marxer, Kohl, Pavlick, Weeks, R. Brown, Kulawinski, Stengel, Clem, Ahles-Kedziora

Volume remaining July 1, 1984 = 225.5×10^6

Volume remaining June 30, 1985 = 140.4×10^6 gallons

Total effluent flow July 1, 1984 ------> June 30, 1985 = 5452.5×10^6 gallons

Total pounds Na_2SO_4 in effluent = 68.2×10^6 lbs.

Test well data, 12-month cumulative average:

BOD_5 (mg/l) = 9
Na_2SO_4 (mg/l) = 1190

Pond data, 12-month cumulative average:

Na_2SO_4 (mg/l) = 1510

Total effluent volume to rapid infiltration:

July 1, 1984 -----> June 30, 1985 = 775.2×10^6 gallons

Average effluent Na_2SO_4 concentration =

$$\frac{\text{Total } Na_2SO_4 \text{ in effluent}}{\text{Total effluent volume}} =$$

$$\frac{68.2 \times 10^6 \text{ lbs}}{5452.5 \times 10^6 \text{ gallons}} \times \frac{1\text{ppm}}{8.34 \times 10^{-6} \text{ lbs./gal.}} = 1500 \text{ ppm}$$

Percent Evaporation =

$$1 - \frac{\text{Average effluent } Na_2SO_4 \text{ concentration}}{\text{Average pond } Na_2SO_4 \text{ concentration}}$$

$$= 1 - \frac{1500}{1510}$$

$$= 0.007$$

Volume Percolated and Evaporated =

Pond volume on 7/1/84
\+ Total effluent flow
\- Volume infiltrated
\- Volume direct discharged
\- Pond volume on 6/30/85

$$= (225.5 + 5452.5 - 775.2 - 2172.9 - 140.4) \times 10^6 \text{ gallons}$$

$$= 2589.5 \times 10^6 \text{ gallons}$$

Assume 10% evaporation

Volume evaporated = (Total effluent flow + pond volume on 7/1/84) X 0.10

= (5452.5 X 225.5) X 0.10

= 567.8×10^6 gallons

Volume percolated = Total volume percolated and evaporated - volume evaporated

= $(2589.5 - 567.8) \times 10^6$ gallons

= 2021.7×10^6 gallons

BOD_5 Discharged by percolation and infiltration =

$$\frac{\text{Average pond } Na_2SO_4}{\text{Average test well } Na_2SO_4} \times \text{Average test well } BOD_5$$

$$\times \quad (\text{volume infiltrated} + \text{volume percolated})$$

$$\times \quad \frac{8.34 \times 10^{-6} \text{ lbs/gal}}{1\text{ppm}}$$

$$= \frac{1510}{1190} \times 9 \times [(775.2 + 2021.7) \times 10^6 \text{ gallons}]$$

$$\times \frac{8.34 \times 10^{-6} \text{ lbs/gal}}{\text{ppm}}$$

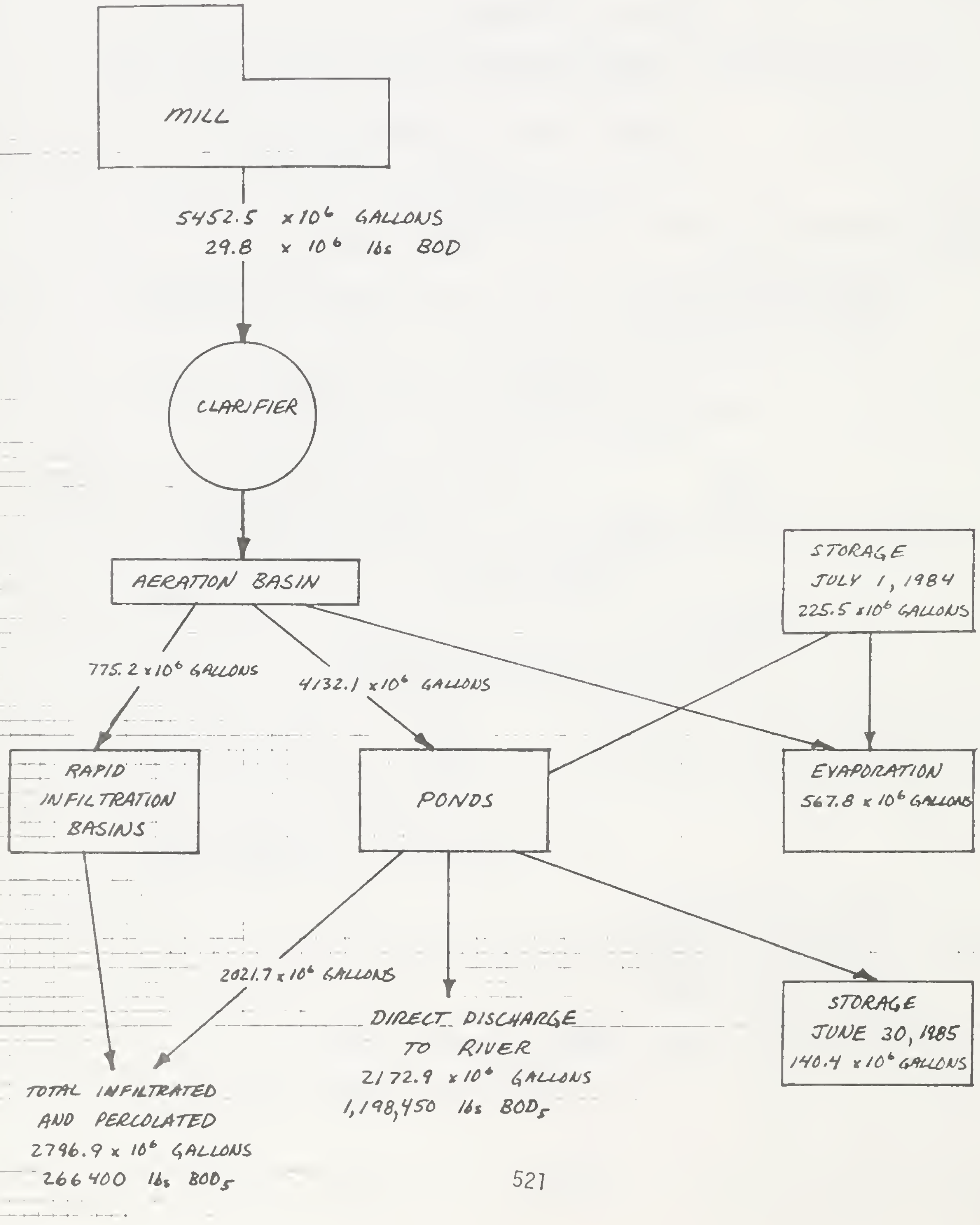
= 266,400 lbs.

BOD Direct Discharged = 1,198,450

Total BOD_5 Discharged = 1,464,850

Table 29.5.

FIGURE I EFFLUENT FLOW 1984-1985 DISCHARGE SEASON



V. CLARK FORK RIVER WATCHER'S RIVER MONITORING DATA

The Clark Fork River Watchers is a citizen's organization of interested in the maintenance and improvement of the Clark Fork River system. The group, composed of several chapters, is an affiliate of the larger Clark Fork Coalition.

Beginning in the summer of 1984 and following state approval of the temporary modification of Champion's discharge permit to allow nearly year around direct discharge, the Plains Chapter of the River Watcher's began to record observations at several stations on the lower Clark Fork. Additionally, members were trained by Water Quality Bureau staff to analyze river samples for dissolved oxygen. The bureau loaned the group an analysis kit.

Since August 1984, the group recorded detailed information on river dissolved oxygen, temperature, water appearance and other observations on a weekly basis in summer and a monthly basis the remainder of the year.

A somewhat condensed version of their observations and river measurements follows in Table 30.

TABLE 30. Clark Fork River Watchers Dissolved Oxygen and Temperature Monitoring Data and Field Observations

PART 1

Location[1]	Date	Time	Dissolved Oxygen mg/l	Water Temp (^{o}C)	Air Temp (^{o}C)	Surface (S) or Deep Grab (DG)	Water Appearance (color, clarity)	Scum (S) or Foam (F) Present	% Surface Covered	Where Found-- Back Waters (BW) or Main Channel (MC)
PFB	8/1/84	0445	7.6	21.1	---	S	Clear, Dark Without Sediments	F-White, Thin Clumps	<1%	BW
PFB	8/1/84	0505	8.6	21.1	---	DG-10' bottom	Cloudy, Green-Brown	F-White, Thin Clumps	1%	BW
SRCO	8/1/84	0615	8.3	19.4	---	DG-16' not bottom	Clear	---	---	---
SRCO	8/1/84	0620	8.0	19.4	---	S	Clear	---	---	---
PFB Beach	8/8/84	0445	8.0	18.9	---	S	Slightly Cloudy	F-White, Thin Clumps	5%	BW
PFB Under Bridge	8/8/84	0510	8.3	---	---	DG-10'	Slightly Cloudy	F-White, Thin Clumps	5%	BW
SRCO	8/8/84	0545	8.3	18.3	---	S	Clear	F-Small, White Bubbles	>1%	BW-Along Shore
SRCO	8/8/84	0555	8.6	---	---	DG-10'	Murky	F-Small White Bubbles	>1%	BW-Along Shore
PFB Under Bridge	8/15/84	0445	7.5	---	--	DC-10'	Clear	F-White, Thin Bubbles	>1%	BW
PFB Beach	8/15/84	0515	7.0	18.9	---	S	Very Clear	F-White, Thin Bubbles	>1%	BW
PFB Beach	8/22/84	0540	7.8	18.6	[illegible]	S	Clear	None	---	---

Table 30. Part 1 Continued

Location[1]	Date	Time	Dissolved Oxygen mg/l	Water Temp (°C)	Air Temp (°C)	Surface (S) or Deep Grab (DG)	Water Appearance (color, clarity)	Scum (S) or Foam (F) Present	% Surface Covered	Where Found Back Waters (BW) Main Channel (MC)
SRCO	8/22/84	[illegible]	8.5	17.2	8.9	S	Clear	F-Thin, White Clumps	2%	BW
PFB Beach	8/27/84	1130	7.1	20.0	21.1	S	Mild Turbidity	F-White	>1%	MC
PFB	8/29/84	[illegible]	8.1	16.7	6.1	S	Clear	F-White	>1%	BW
SRCO	8/29/84	[illegible]	9.0	15.6	7.8	S	Murky-Quite Turbid	F-White	1%	MC
PFB Beach	9/5/84	[illegible]	9.1	16.7	8.9	S	Clear	F-Small, Thin White Clumps	5%	BW
SRCO	9/5/84	[illegible]	9.0	15.6	10.0	S	Mild Turbidity	F-Small, Thin White Clumps	>1%	MC
PFB Beach	9/12/84	[illegible]	9.6	12.8	2.2	S	Clear	F-White Clumps Larger Than Usual	1%	BW
SRCO	9/12/84	[illegible]	9.6	12.2	3.9	DG	Very Cloudy	F-White Thick, Large Clumps Small Bubbles	 5% 10%	 MC BW
SRCO	9/12/84	[illegible]	8.1	12.2	3.9	S	Very Cloudy, Heavy Suspended Sediments	F-White Thick, Large Clumps Small Bubbles	 5% 10%	 MC BW
PFB Beach	9/20/84	[illegible]	9.3	14.4	12.8	S	Clear Along Shore	F-Some Very Large Bubbles & Thin Clumps	--	BW
SRCO	9/20/84	[illegible]	9.0	13.9	12.8	S	Cloudy	F-White, Thin Bubbles	--	Primarily MC Some in BW
PFB Beach	10/3/84	[illegible]	10.5	10.0	1.1	S	Clear	F-White, ½"-1½" High Clumps of Bubbles	2%	BW-Too Foggy to See MC
SRCO	10/3/84	[illegible]	10.7	8.9	4.4	S	Clear	F-Thin, White Bubbles	<1%	MC

Table 30. Part 1 Continued

Location[1]	Date	Time	Dissolved Oxygen mg/l	Water Temp (°C)	Air Temp (°C)	Surface (S) or Deep Grab (DG)	Water Appearance (color, clarity)	Scum (S) or Foam (F) Present	% Surface Covered	Where Found--Back Waters (BW) or Main Channel (MC)
PFB Beach	10/17/84	0805	11.0	7.2	-5.6	S	Clear	F-½" White Bubbles	10%	BW - Too Foggy to See More Than 10 yards
SRCO	10/17/84	0845	11.5	5.6	-4.4	S	Clear	F-Thin Clumps	2%	MC
PFB Beach	11/13/84	0730	11.7	3.9	1.1	S	Clear	F-White Mostly, Some Yellowish Brown, ½" - 2½" Clumps	1%	BW
SRCO	11/13/84	0830	11.7	3.9	1.1	S	Clear	F-White ½" Clumps	5%	MC
PFB Beach	12/11/84	0745	13.3	-1.1	-8.9	S	Very Clear	F	>1%	BW Mostly
SRCO	12/11/84	0825	14.2	-1.7	-6.7	S	Clear	---	---	---
PFB Beach	1/29/85	0900	14.3	-1.7	-6.7	S	Clear	F-Small, Frozen, Thin Clumps, White	2%	Mainly BW Some in MC
SRCO	1/29/85	0930	13.6	-1.7	-5.6	S	Clear	See Comments	---	---
PFB Beach	2/28/85	0715	14.0	0.0	-3.3	S	Very Cloudy	F-White, ½"-1" Clumps	2-5%	BW and MC
SRCO	2/28/85	0750	13.3	No reading	-1.1	S	Very Cloudy	F-White to Light Brown	1%	MC, BW Mostly Covered With Ice
PFB	3/29/85	0630	13.3	3.3	-3.3	S	Murky With Suspended Organic Material	F-Tan To Brown. Thicker & Dirtier Looking Than Usual	10%	BW & MC
SRCO	3/29/85	0705	12.3	4.4	-2.2	S	Greenish Brown, Very Murky, Suspended Organics	F-Tan to Brown Very Large Clumps ½"-3"	5% 5-20% up to 30%	BW MC in Eddies

Table 30. Part 1 Continued

Location[1]	Date	Time	Dissolved Oxygen mg/l	Water Temp (°C)	Air Temp (°C)	Surface (S) or Deep Grab (DG)	Water Appearance (color, clarity)	Scum (S) or Foam (F) Present	% Surface Covered	Where Found: Back Waters (BW) Main Channel (MC)
PFB	4/30/85	0605	11	8.3	-3.3	S	Less Cloudy Than 1 Month Ago	F-Tan, Flat Bubbles 3" and Larger; Large Collections Several Feet Across	10%	BW
SRCO	4/30/85	0645	10.6	10.0	0.6	S	Slightly Murky, Although Much Clearer Than Last Time	F-White, up to 3"	2% 5%	MC in Eddies
PFB	5/30/85	0630	10.5	10.0	2.2	S	Turbid	F-White, Flat-1"	2%	MC & BW
SRCO	5/30/85	0700	10.6	8.9	2.2	S	Turbid	F-Muddy-Looking	1%	BW
PFB	7/9/85	0630	8.6	21.1	13.3	S	Clear	F-White, Thin Clumps	10%	BW
SRCO	7/9/85	0700	8.6	19.4	14.4	S	Clear	F-White, Flat Clumps	1%	BW
PFB	8/1/85	0600	7.2	22.2	14.4	S	Some SS	F-White ½", Large Clumps	2-5%	MC Primarily
SRCO	8/1/85	0645	8.0	18.9	13.3	S	Slightly Turbid	F-White, ½"	10%	MC

[1] PFB - Clark Fork at Plains Fairground Bridge
SRCO - Clark Fork at crossing near St. Regis Cutoff Road

Table 30. Part 2

PART 2

Date	Time	Streambed Character	General Weather Conditions	Wildlife and Other Observations	Fish-Frequency of Rising, Species & Related Information	Comments-Water Level, Odor, Precipitation, Winds, Events Along River
8/1/84	0445	Sandy Beach, Fine Silt	---	---	None Rising	---
8/1/84	0505	Algae-About 50% Cover, Large Amounts of Sediments	---	Family of Ducks Feeding at 10:30 on Return Trip	Single Rise	---
8/1/84	0615	No Algae Seen, Thick Sediment in Backwater	---	8 Canada Geese Noted on Sandbar Between Plains and Paradise at 1000	1 Squawfish-18", 1 Squawfish-14", Rainbow Trout-14", Appears Well Fed, Few Fish Rising	---
8/1/84	0620	---	---	---	---	---
8/8/84	0445	Sandy Beach, Some Suspended Sediments	---	Heard Water Fowl, Swallows & Sandpipers	Some Fish Rising	Musty Smell, Heavy Rain during Past Week
8/8/84	0510	---	---	Heard Water Fowl, Saw Great Blue Heron Fishing East of Bridge	Some Fish Rising	Musty Smell, Heavy Rain during Past Week
8/8/84	0545	Rocks Covered With Green Slime	Clear, Breezy, Surface Rippled		No Fish Caught, Some Rising	Musty Smell, Heavy Rain During Past Week, "Liming" or "White Washing" of Rocks 6' Above Water
8/8/84	0555	Rocks Covered With Green Slime	Clear, Breezy, Surface Rippled		No Fish Caught, Some Rising	Musty Smell, Heavy Rain During Past Week, "Liming" or "White Washing" of Rocks 6'Above Water

Table 30. Part 2 Continued

Date	Time	Streambed Character	General Weather Conditions	Wildlife and Other Observations	Fish-Frequency of Rising, Species & Related Information	Comments-Water Level, Odor, Precipitation, Winds, Events Along River
8/15/84	0445	About 50% Algae, Looks Like It'd Be Slippery	Calm, Clear	Heard 1 Duck, Heard Beaver Slap the Water Several Times	A Few Fish Rising	Water Seems to Have Dropped Several Inches Since Last Week
8/15/84	0515	Sandy Bottom	Calm, Clear	Swallows Beginning to Fly	Some Fish Rising	Water Seems to Have Dropped Several Inches Since Last Week
8/22/84	0540	Sandy	Calm, Clear	Minnows Present in Shallows, Heard Waterfowl	No Fish Rising	Water Down Several Inches Again
8/22/84	0620	Rocks Covered With Algae	Clear & Windy	---	Fish Rising Frequently	"White-Wash" Apparent on Freshly Exposed Rocks
8/27/84	1130	Sandy Bottom	Warm & Windy		Some Fish Jumping	
8/29/84	0600	Sandy Bottom	Overcast & Calm	---	Few Fish Rising	Two Previous Days Experienced High Steady Wind, Water Up About 6"
8/29/84	0645	Algae in Large Quantities, See Comments	Overcase With Light Breeze	---	Many Fish Jumping, Rising Almost Constantly, Minnows in Shallows	Algae in Clumps & Filaments-Quite Prevalent, Sand has Been Deposited Along Shoreline Rocks, Water Down About 4"
9/5/84	0630	Sandy Bottom	Cool, Overcast, Calm	---	Fish Rising Frequently	Water up About 10", Strong Musty Odor, Two Days of Steady Rain Between Testings
9/5/84	0715	Both Algae & Sediments	Breezy, Overcast	Two Ducks Near Shore, Saw Blue Heron Near Paradise (as Usual)	Some Rising-Some Clearing the Water	Water Up About 12", Foam is Heavier Here (Compared to Plains), Strong Musty Odor Even With Good Breeze, Algae Appearing in Larger Clumps Than Last Week, Rock Surfaces Are Slimy & Slippery in Water

Table 30. Part 2 Continued

Date	Time	Streambed Character	General Weather Conditions	Wildlife and Other Observations	Fish-Frequency of Rising, Species & Related Information	Comments-Water Level, Odor, Precipitation, Winds, Events Along River
9/12/84	0615	Sandy Bottom	Light Fog Rising Partly Cloudy, Calm	Saw 2 Beaver, Heard 1 Duck	Few Fish Rising	Water Down About 6" Since Last Testing Rain During Night & For 2 Days Since Last Test
9/12/84	0705	100% Covered By Algae, Very Slimy	Partly Cloudy, Breezy	---	Very Few Fish Rising	Water Level Seems Unchanged, Rain as Above, Water in Test Vial Very Cloudy
9/12/84	0715	Rock Entirely Covered With Algae, By Shore Too	Partly Cloudy, Breeze	Small Flock of Ducks Flew Over Water	---	Saw Many Areas of the Shoreline Lined With Unbroken Blocks of Foam Collections-Maybe up to 10" High
9/20/84	0715	Sandy Bottom	Steady Rain Through Night	Saw 1 Beaver Swimming	Only a Few Fish Rising, Rising Becoming More Frequent by End of Test	Water Seems up a Few Inches, On 18th Saw Heavy Brown Foam Covering An Area Approximately 100 x 150 Yards in an Eddy-NW of Plains-Took Photo
9/20/84	0745	No Clumps of Algae Where Usually Seen	Summerlike-70s 80s in Day and 50s at Night, Raining Steadily, No Breeze	---	Rising Frequently	Water Down About 6", Large Blocks of of Foam Seen on Shoreline, Musty Odor Present
10/3/84	0700	Sandy	Dry, Foggy	Beaver Swimming	None Rising	Have Had Several Warm Days After A a Week of Cold Water
10/3/84	0735	Rocks Appear "Clean"	Clear & Windy	---		Water Seems Up About 6"
10/17/84	0805	Sandy	Clear, Cold, Very Foggy	---	Heard Fish Rise	Musty Odor by Water As Usual

Table 30. Part 2 Continued

Date	Time	Streambed Character	General Weather Conditions	Wildlife and Other Observations	Fish-Frequency of Rising, Species & Related Information	Comments-Water Level, Odor, Precipitation, Winds, Events Along River
10/17/84	0845	Heavy Algae On Rocks Out About 4', Heavy Sed-iments on Rocks Closer to Shore	Clear, Cold, Very Windy	---	None Rising	Water Down About 6", Heaviest "Liming" on Rocks so Far, Noting Heavy Patches of Foam on Surface of of Running Water-At Riffles-As Well as Large Blocks of Foam on Shoreline that Look Like Styrofoam
11/13/84	0730	Sandy	Cold, Cloudy, Foggy	---	Some Fish Rising	Very Little Wind in the Past Month Water Level Seems Up Since Last Month, Mostly Cool Weather With Rain & Snow and Fair Amount of Snow Melt
11/13/84	0830	Algae on Rocks by Shore	Windy, Cold, Low Clouds	1 Duck	No Fish Rising	Some Blocks of Foam Along Shoreline High Winds Concurrent With Test, Water Level Same as 1 Month Ago, Heavy Foam in Eddys Along the Cut-off
12/11/84	0745	Sandy	Clear & Cold	---	---	Water Up Since Last Test, Has Been Generally Cold With Snow and Rain, Some Ice on River, Some Snowmelt
12/11/84	0825	Algae on Rocks	Clear & Cold	---	---	Many Sections of the River are Covered With Ice, Floating Chunks of Ice Also
1/29/85	0900	Brown Algae Either Growing or Has Been Deposited on Sandy Bottom	Cold, Partly Cloudy, Snow Predicted	---	Saw Many Fish Rising Within A Couple of Minutes	Saw About 1½ Dozen Pieces of Water Weeks or Grasses Float By, Small Amounts of of Slush and Ice Moving, Water Level Same

Table 30. Part 2 Continued

Date	Time	Streambed Character	General Weather Conditions	Wildlife and Other Observations	Fish-Frequency of Rising, Species & Related Information	Comments-Water Level, Odor, Precipitation, Winds, Events Along River
1/29/85	0930	---	Cold, Breezy Overcast Starting to Snow	---	---	Brown Scum Deposits on Edges of Ice in River, Heavy "White-Washing" Material Coming Off With Ice-Saw Deposits Imprisoned in Ice, Water Down about 12", Lots of Slush Moving
2/28/85	0715	Algae, Sediments Dead Diatoms(?) Building Up on Sand	Cold, Partly Cloudy, Looks Like Snow or Fog In Hills Around Town	1 Duck in Water 2 Geese Overhead	No Fish Rising	Occasional High Winds in Past Week, Snow & Rain Since Last Test, Have Had Many Warm Days in Past 2 Weeks Lots of Snow Melt but Snow is Disappearing More Slowly Than in Past Years, Water Down About 8"
2/28/85	0750	Could Not See Due to Ice Along Shore & Turbidity of Water	Cold, Windy, Mostly Cloudy	---	Saw 1 Fish Rise	Judging From Ice Rim on Rocks Water Down About 18-24", Newly Exposed Rocks Show Heavy Green Coloration, Where Ice has Lodged at a Slant Underwater-Providing Backdrop-Water Appears a Very Murky Green, Ice Rimmed by Brown in Many Places, High Winds Currently
3/29/85	0630	Usual Sandy Bottom Covered by Greenish-Brown Algae	Cold, Calm, Mostly Cloudy, No Precipitation in Past 24 Hours	3 Geese, 2 Ducks	Saw Many Fish Rising, Probably the Most We've Ever Seen While Testing	Water Level has Dropped, Can See the "White-Washing" and Algae Growth Deposits on Shore in Plains as on the SRCO, This was not Noticeable Last Fall, Slight Musty Odor Present, Have had Snow and Rain Since Last Testing and a Couple of Days of High Winds, Water Level Remains Low, Down About 6" Since Last Test

Table 30. Part 2 Continued

Date	Time	Streambed Character	General Weather Conditions	Wildlife and Other Observations	Fish-Frequency of Rising, Species & Related Information	Comments-Water Level, Odor, Precipitation, Winds, Events Along River
3/29/85	0705	Very Heavy Algae, Rocks in Water are Greenish-Brown Rocks Above Water Have Thick Dirty-White ½" Deposits	Cloudy, Cool Calm for a Change	2 Ducks, Saw 30 Bighorn Sheep, 3 Bands on the Other Side of River	A Few Rising	The Most Foam We've Ever Seen on the River and it has a Much Dirtier Appearance than Usual, Water Down About 6"
4/30/85	0605	Sandy With Algae Deposits in Sand Ripples	Clear, Calm, Cold	Heard 1 Goose, 1 Duck and Meadow Larks	Saw Several Dozen Rise While Taking Sample	Some Fog Rising, Snow Melting in Mountains-½ of Baldy Heart is Still Covered, Have Had 6 Very Windy Days, Noxon Reservoir has Been Drawn Down to Increase Power, Water up at Least 8"-Strong Flow in MC
4/30/85	0645	Algae & Sandy Deposits on Rocky Bottom	Windy, Clear Cold	---	None Rising	Current is Very Strong Here-Whirlpools Forming Quickly and Loudly and Then Disappearing,
5/30/85	0630	Same as Last Month	Wet-Steady Rain For the Past 36 Hours	Even the Ducks Aren't Out, Only Two Fools in Mobile Test Unit #1	None Rising	Incredible Amount of Fast-Moving Water! Rain is Falling Here, Snow at About 3200', Precipitation Off and On for About 6 Days, This Should Help Noxon Reservoir, Down to Almost No Water with Huge Mud Flats, Have had 2 Weeks of Hot, Dry Weather, Remaining Snow Melted from Mountains Around Plains
5/30/85	0700	Looking Cleaner Than Usual	Wet-A Little Snow Mixed With Rain, Windy & Cool	---	None	Water Level up to the Base of Trees 100 Yards to Our Left, Slight Musty Odor

Table 30. Part 2 Continued

Date	Time	Streambed Character	General Weather Conditions	Wildlife and Other Observations	Fish-Frequency of Rising, Species & Related Information	Comments-Water Level, Odor, Precipitation, Winds, Events Along River
7/9/85	0630	Dark Green, Algae & Sed-iments	Clear, Warm	---	None	Unusually Warm with Low Water for so Early in the Year, No Odor, No Precipitation in One Month, High Winds Daily
7/9/85	0700	Sand on Rocks Fairly Clean Looking	Warm, Calm	Swallows in Flight	None Rising	Water 6" Below High Water Mark
8/1/85	0600	The Usual	Rain 4-5 Hours On 7/31 During Night After Two Dry Months, Sprinkling Now	A Few Ducks	Not Many Rising But Are Steady, Saw Some Fry in Flashlight Beam	Dept. of Fish, Wildlife & Parks Electro-Shocked Fish by PFG Two Weeks Ago, Water Level has Dropped About 1' Since Last Testing, At Thompson Falls Daily Flow was Reported at 12,000 cfs this Past Week, One Year Ago it was 17,000 cfs, Wet Beach Smells Very Bad, Hot, Dry Winds Off and on Since Last Test, Noxon and Cabinet Dams to be Lowered in the Next Week by WPPS for Work on Dams
8/1/85	0645	Very Large Clumps of Algae, Some Fixed and Some Moving on Down-stream	Sprinkling	---	A Few Rising	Water is the Lowest We've Ever Seen at This Spot-a Small Sandbank has been Exposed Close to Shore and the "Island" Across the River is No Longer an Island, Drought Conditions in Most of the State with Many Rivers Down to Bare Trickle, DFWP Negotiating With Water Users to Maintain Enough Flow for Fisheries Survival

The investigators for these data were Charles Woolley and Judy Woolley except for 8/1/84 when it was just Charles Woolley; 8/8/84 when Darryl Olsen joined them and 12/11/84 when Fred Roche joined them.

VI. STREAMFLOW DATA

The water quality data thus far presented together with streamflow records will be the basis for loading calculations for the various pollutants discussed in the EIS. Stream and wastewater discharge flow rates for the days when samples were collected are listed in Table 5. However, monthly average streamflows will be needed to compute monthly average loads of pollutants in the EIS. These data for selected gaging stations in the Clark Fork basin are given in Table 31. Figures 22-25 are hydrographs comparing annual streamflows for water years* 1984 and 1985 at each of four gaging stations in the basin. The hydrographs allow a comparison of runoff patterns between each of the two years of study.

* A water year is a 12-month period beginning in October and ending in September.

Table 31. Monthly Average Streamflows at Selected Gaging Stations in the Lower Clark Fork Basin, Water Years 1984-1985

Source	Station	Water Year 1984											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
1.	Clark Fork Near Clinton	939	851	569	1190	694	784	1153	1992	2632	879	527	725
1.	Rock Creek Near Clinton	291	276	178	269	214	252	560	1721	2338	859	399	338
1.	Blackfoot Near Bonner	700	688	409	753	593	723	1663	3442	4497	1665	828	738
1.	Clark Fork Above Missoula	1981	1927	1154	2044	1561	1856	3458	7065	9278	3360	1742	1802
1.	Clark Fork Below Missoula	3583	3513	2045	3350	2798	3219	5756	13170	20160	6845	2884	3348
1.	Clark Fork At St. Regis	4133	4323	2642	4360	3667	4161	7371	16310	24750	8492	3636	3897
1.	Clark Fork Near Plains	14550	14760	12980	16750	14090	13270	15750	24010	44880	20110	10170	12470
2.	Clark Fork Below Thompson Falls Dam	15215	15390	12180	17190	14840	13570	15540	[illegible]	45572	21440	10770	13030
1.	Prospect Creek at Thompson Falls	52.0	51.3	58.8	127	118	154	272	503	526	148	77.0	60.2
1.	Clark Fork Below Noxon Rapids Dam	14100	14790	12050	16490	14560	13490	16770	26700	46030	21130	10210	12270
1.	Clark Fork at Whitehorse Rapids	15560	16380	13360	18540	16500	15390	19370	30750	51440	24250	11490	14010

Table 31 Continued

Water Year 1985

Source	Station	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep
3.	Clark Fork Near Clinton	825	786	605	514	504	695	1082	777	440	162	286	56
3.	Rock Creek Near Clinton	288	250	190	137	156	202	544	1407	889	267	282	36
3.	Blackfoot Near Bonner	668	634	486	494	480	542	1729	4403	2615	751	603	82
3.	Clark Fork Above Missoula	1832	1726	1391	1449	1380	1508	3370	6570	3997	1203	1208	177
3.	Clark Fork Below Missoula	3209	2951	2177	1969	1804	2309	6086	12940	8651	1832	2021	336
3.	Clark Fork At St. Regis	3850	3707	---	---	---	---	8647	18450	12730	3064	---	--
3.	Clark Fork Near Plains	13700	12970	13680	13840	12910	10580	16390	34260	34190	13090	---	--
2.	Clark Fork Below Thompson Falls Dam	14230	13350	14470	14280	13240	11030	16590	36206	38013	13879	14018	1690
3.	Prospect Creek At Thompson Falls	47.6	55.8	59.6	50.5	42.9	63.8	508	847	518	138	88.0	70.
3.	Clark Fork Below Noxon Rapids Dam	13520	12600	13450	13280	12530	14160	19210	33610	36020	13360	12880	1642
3.	Clark Fork at Whitehorse Rapids	14760	14030	14900	14810	14160	15850	22490	38670	41070	15520	14190*	--

Sources
1. U.S. Geological Survey Water Data Report MT-84-2.
2. Montana Power Company, unpublished records.
3. U.S. Geological Survey unpublished provisional records.

* August flow is average of days 1-27. Records for last 4 days of month not available at time of report preparation.

Figure 22. Hydrographs for Clark Fork near Clinton, Water Years 1984 and 1985
(Source: U.S. Geological Survey)

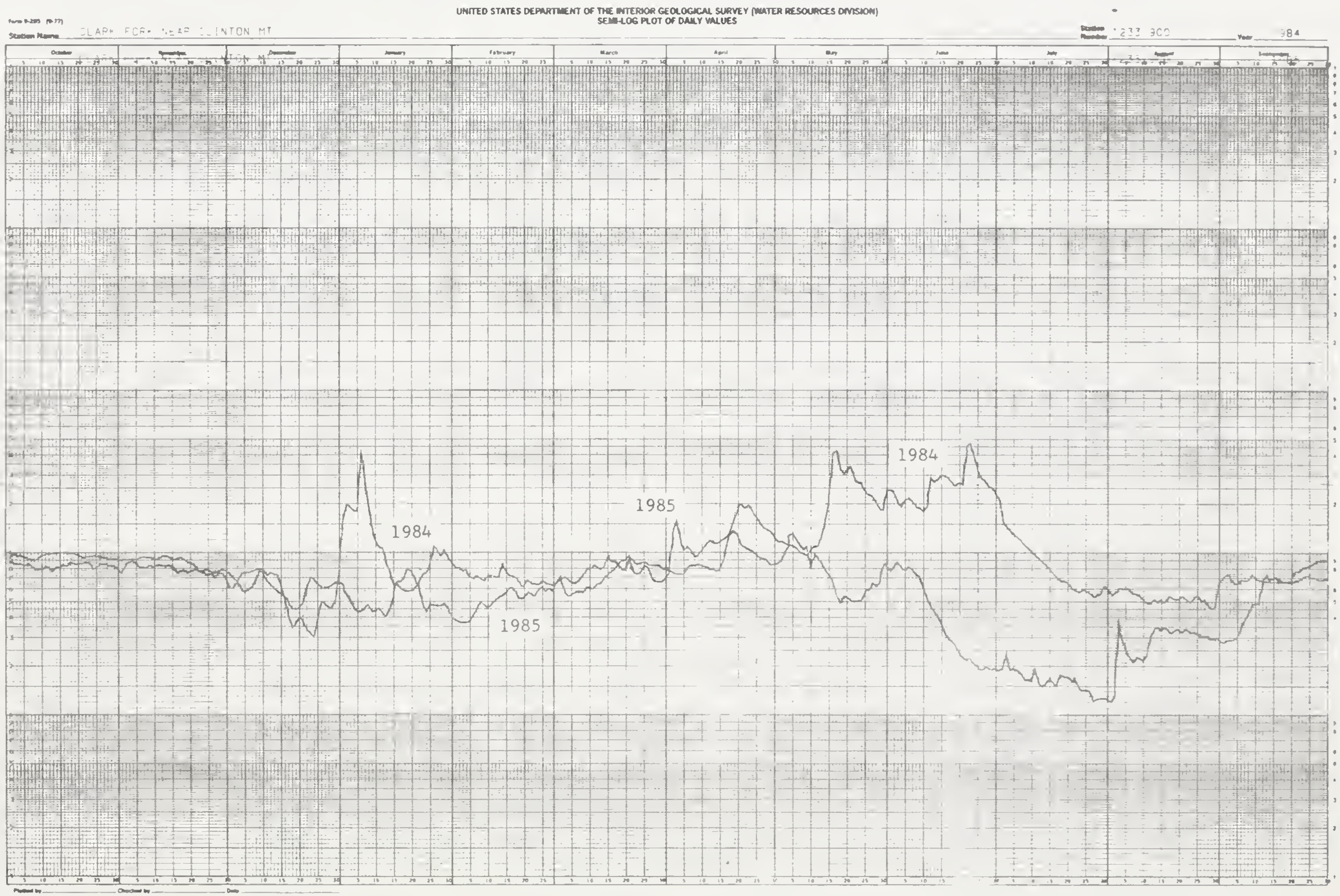


Figure 25. Hydrographs for Blackfoot River near Bonner, Water Years 1984 and 1985
(Source: U.S. Geological Survey)

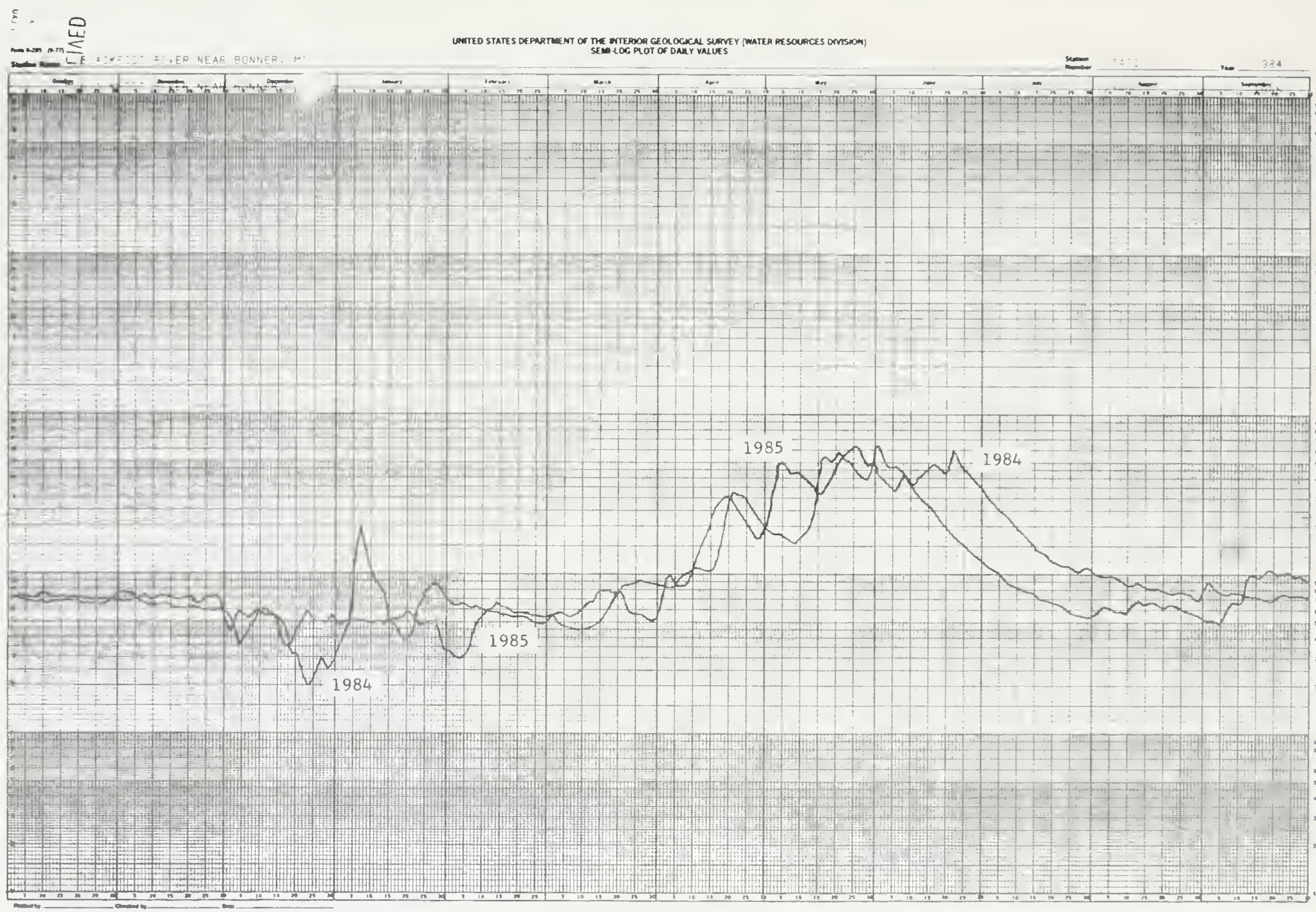


Figure 24. Hydrographs for Clark Fork Above Missoula, Water Years 1984 and 1985 (Source: U.S. Geological Survey)

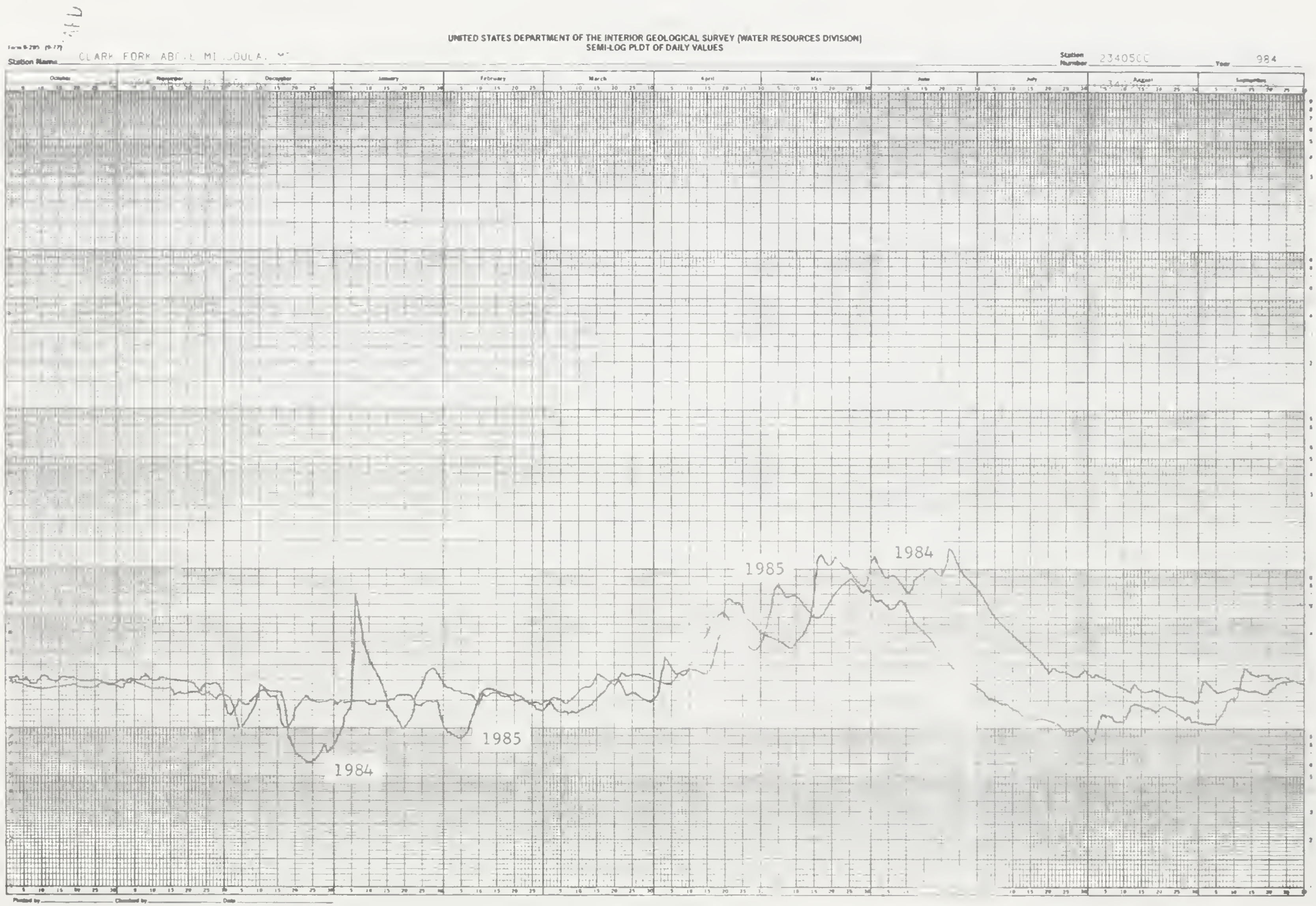
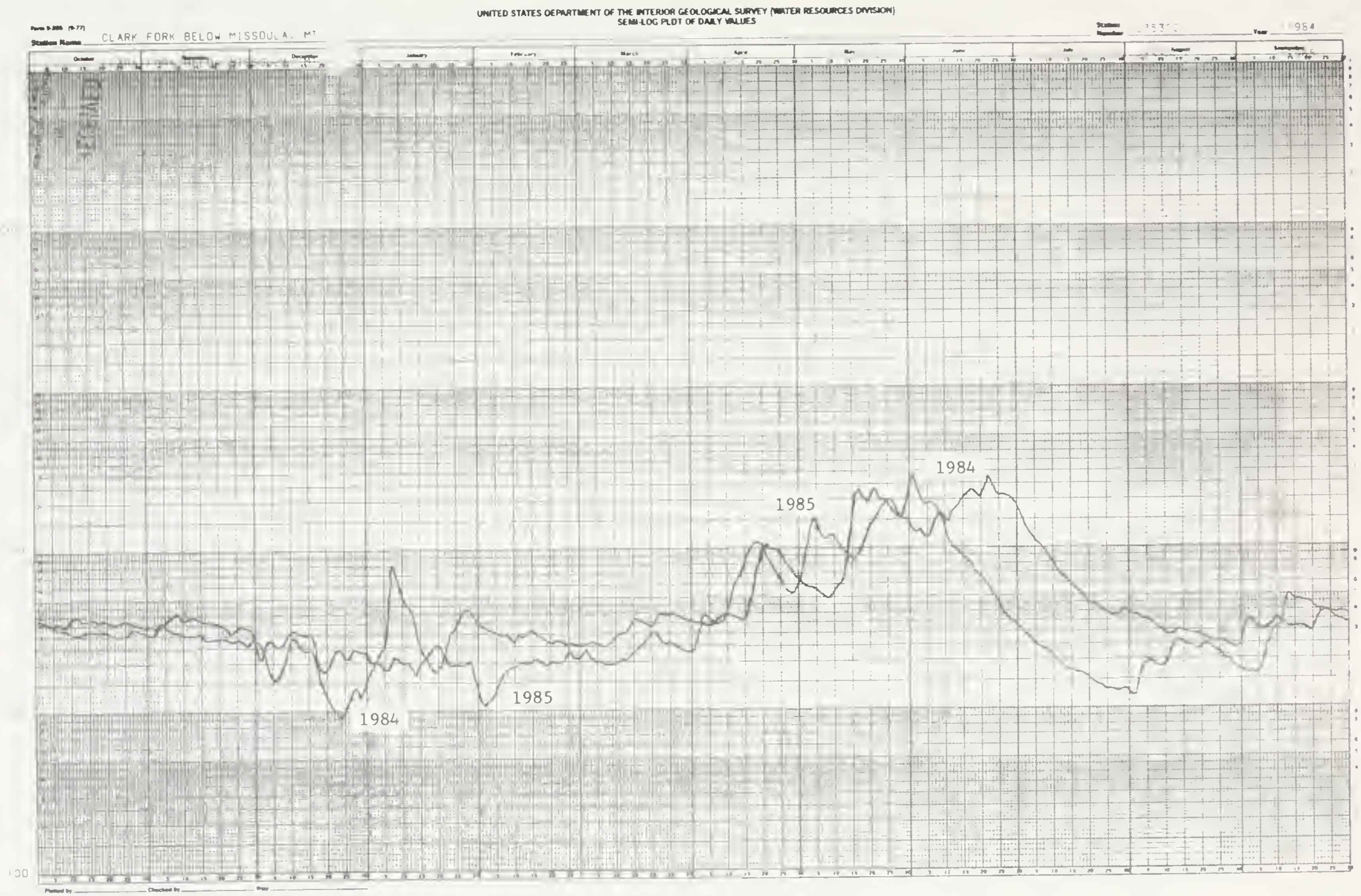


Figure 25. Hydrographs for Clark Fork below Missoula, Water Years 1984 and 1985
(Source: U.S. Geological Survey)



APPENDICES

TRAVEL TIME CALCULATIONS.

The estimation of travel-times for the Clark Fork River from below Milltown dam to above Thompson Falls was done using a simple model. The model was developed by the following steps:

1. a field dye-study to measure travel-times for selected reaches;

2. comparison of the measured travel-times with ones calculated; and

3. development of a procedure for estimating travel-times at other flows and for other reaches of the river.

The field dye-study was performed on July 17-18, 1984. Rhodamine WT was injected at three locations and the travel-time over a total of about 86 river miles was measured. The arrival of the dye at various monitoring points along each of the reaches in the study was monitored using a fluorometer with a chart recorder. The quantity of dye to inject was calculated according to Hubbard, et. al.(1982) and was based on the maximum concentration of dye being 0.5 ppb at the end of the reach.

Pertinent data used for each of the reaches and the results of the study are given below. The river-mileages and elevation changes were estimated from USGS topographic maps. The mileages were compared with published values of U.S. EPA and the Montana Dept. of Natural Resources and Conservation and in some cases adjusted or remeasured until acceptable agreement was reached. The measured travel-times are the times to the peak concentration of dye at the monitoring point.

The flow at the time of the study was 4800 cfs as measured at the USGS guage below Missoula (below the confluence with the Bitterroot River). Flows for the reach through Missoula and the reach below St. Regis were estimated using regression equations. Since 1981 seemed to be a year with similar flow conditions, regressions were done using USGS daily flows at three stations for the period July 11-31, 1981 during which the flow varied from 6660 cfs to 3010 cfs at the station below Missoula. The resulting regression equations are:

Q(bel St Regis) = 1.26Q(bel Missoula) + 350 (r=.99)
Q(abv Missoula) = .466Q(bel Missoula) + 710 (r=.99)

where Q is flow at the indicated stations in cfs.

The flows at other locations were estimated using a rough extrapolation from the above three stations.

Injection 1:
Reserve St. Bridge to Harper Bridge: 12.8 river-miles; 97 foot elevation change; flow = 4800 cfs (2950 cfs (est) above the Bitterroot R.); measured travel-time = 5.9 hours; calculated river velocity = 2.25 mph.

Harper Bridge to Champion: 3.5 river-miles; 20 foot elevation change; flow = 4800 cfs (est); measured travel-time = 1.4 hours; calculated river velocity = 2.50 mph.

Champion to Huson: 8.8 river-miles; 48 foot elevation change; flow = 4800 cfs (est); measured travel-time = 3.5 hours; calculated river velocity = 2.43 mph.

Huson to Petty Creek: 10.5 river-miles; 35 foot elevation change; flow = 5200 cfs (est); measured travel-time = 4.9 hours; calculated river velocity = 2.14 mph.

Injection 2:

Petty Creek to Forest Grove: 24 river-miles; 217 foot elevation change; flow = 5400 cfs (est); measured travel-time = 10.5 hours; calculated river velocity = 2.29 mph.

Forest Grove to LaVista: 16.5 river-miles; 68 foot elevation change; flow = 6000 cfs (est); measured travel-time = 6.3 hours; calculated river velocity = 2.62 mph.

Injection 3:

Below St. Regis on highway 135 from mile-post 11 to mile-post 20.5: 10.4 river-miles; 55 foot elevation change; flow = 6400 cfs (est); measured travel-time = 4.2 hours; calculated river velocity = 2.48 mph.

Theoretical calculations of velocities of the river for each of the reaches were made using the equations of Boning (1974). He gives separate equations for "channel-controlled" reaches and for "pool and riffle" reaches. These equations are:

$$V_{cc} = 2.69(Q)^{0.26}(S)^{0.28} \quad \text{(channel-controlled)}$$

$$V_{pr} = 0.38(Q)^{0.40}(S)^{0.20} \quad \text{(pool and riffle)}$$

V is velocity in ft/sec, Q is discharge in cfs, and S is slope in ft/ft. V was converted to mph by multiplying by 0.682.

The results of the calculations were in good agreement with the results of the dye-study and for the most part the two velocities (channel-control and pool-riffle) calculated for each reach bracketed the measured velocity (see table below).

A model was then conceived that consisted of using the two equations above after determining for each reach whether the channel-control equation, the pool-riffle equation, or a combination of the two should be used. To carry this out

a calibration procedure was used in which a weighted-average of the channel-control and pool-riffle results was calculated for the flows at which the dye-study was carried out and the weighting factors were chosen so that the weighted-average equalled the measured velocity. Or in mathematical terms:

$$V_m = A(V_{cc}) + B(V_{pr})$$

V_m is the measured velocity, V_{cc} and V_{pr} are the calculated channel-control and pool-riffle results, and A and B are the weighting factors.

The results are summarized in the following table.

Reach	V_m	V_{cc}	V_{pr}	Calc. A	Calc. B	Used A	Used B
Res. St-Harpers	2.25	2.49	1.90	.59	.41	.6	.4
Harpers-Champion	2.50	2.46	1.96	1.08	-.08	1.0	0.0
Champion-Huson	2.43	2.44	1.95	.98	.02	1.0	0.0
Huson-Petty Cr	2.14	2.15	1.82	.97	.03	1.0	0.0
Petty Cr-F Grove	2.29	2.86	2.24	.08	.92	0.0	1.0
F Grove-LaVista	2.62	2.48	2.07	1.34	-.34	1.34	-.34
Hwy mile 11-20.5	2.48	2.62	2.21	.66	.34	.66	.34

A high value for A indicates that the reach has a predominately channel-control character, while a high value for B indicates a predominately pool-riffle character. The results seem fairly reasonable. The reach with the most channel-control character should probably be the Forest Grove to LaVista; the fact that A exceeds 1.0 and B is negative for this reach indicates that the river may flow abnormally fast through this stretch. The reach with the most pool-riffle character would certainly be Petty Cr. to Forest Grove, which includes Alberton Gorge.

The values for A and B were rounded off to the common fractions which are shown in the "Used" columns. The determination of travel-times at other flows was done by the following procedure:

1. divide the river from below Milltown to above Thompson Falls into reaches;

2. determine the flow at USGS gauge below Missoula;

3. estimate the flow for the other reaches;

4. calculate V_{cc} and V_{pr} for each reach followed by estimates of V_m using the equations given above;

5. using the estimates of V_m calculate the travel time for each reach and keep a cumulative total.

The table below gives the final results for three flows as measured at the USGS station below Missoula.

Station (upper end of reach)	Mile	Slope Ft/Mi	1500 cfs MPH	1500 cfs Hour	3000 cfs MPH	3000 cfs Hour	4000 cfs MPH	4000 cfs Hour
Bel Milltown	0	9.2	1.6	0	2.0	0	2.1	0
Abv Missoula	4	"	"	2.5	"	2.0	"	1.9
Missoula STP	7.5	"	"	4.7	"	3.8	"	3.6
Shuffields	9	"	"	5.6	"	4.5	"	4.3
Bitterroot R	11.5	5.6	1.8	7.2	2.2	5.8	2.3	5.5
Harper Bridge	20	5.7	1.8	11.9	2.2	9.5	2.3	9.1
Champion	23.5	5.6	1.8	13.9	2.2	11.1	2.3	10.6
Huson	32	2.5	1.4	18.6	1.7	15.0	1.9	14.3
Ninemile	38	4.0	1.7	22.9	2.0	18.5	2.2	17.5
Abv Alberton	43	10.3	1.5	25.8	1.9	21.0	2.1	19.7
Tarkio	62	3.9	1.3	38.5	2.2	31.0	2.3	28.8
Lozeau	71	3.0	1.8	45.[illegible]	2.0	35.1	2.2	32.7
Superior	81	5.3	1.9	51.0	2.2	40.1	2.4	37.2
St Regis	97	5.4	1.8	59.4	2.1	47.3	2.3	43.9
Abv Flathead	120	3.5	2.4	72.2	2.7	58.3	2.9	53.9
Plains	130	2.3	2.1	76.4	2.4	62.0	2.6	57.4
Abv T Falls	145			83.5		68.5		63.1

For the synoptic sampling runs the "Hour" column in the above table was used to determine when to sample at each station. A "window" of + or - 5% of the cumulative hour was allowed. For example, at 3000 cfs the sampling schedule allowed for the station at Superior to be sampled anytime from 38.1 to 42.1 hours after the start of the sampling run below Milltown. Although an attempt was being made to track a slug of water, in actuality the slug disperses greatly as it moves downstream. This was noted in the dye-study and justifies the + or - 5% window.

REFERENCES:

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Hubbard, E. P., F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr., Measurement of Time of Travel and Dispersion in Streams by Dye Tracing: U.S. Geol. Survey Techniques of Water-Resources Investigations, Book 3, Chap. A9, 44 p.

Montana Department of Health
and Environmental Sciences

Chemistry
Laboratory

QUALITY ASSURANCE LIMITS

PARAMETER	PRECISION RANGE (mg/l)	PRECISION LIMIT (+ or -)	ACCURACY WARNING LIMITS (% Recovery)	ACCURACY ACCEPTANCE LIMITS (% Recovery)	DET. LIMIT (mg/l)
ACIDITY					
EPA 305.1	10 - 1000	10	NOT AVAILABLE		10.0
ALKALINITY	10 - 70	2.0	NOT AVAILABLE		10.0
EPA 310.2	70 - 200	3.0			
	200 - 300	5.0			
	300 - 500	10.			
ALUMINUM					
	.1 - .6	.27	80 - 123	69 - 134	0.1
EPA 202.1	.6 - 1.2	.39			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	0.3
ANTIMONY					
EPA 204.1	.2 - 15.0	.2	90 - 110	85 - 115	0.2
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.04
ARSENIC					
	.001 - .005	.002			0.001
Automated	.005 - .020	.003	93 - 125	85 - 133	
Gaseous Hydride	.020 - .100	.005			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 115	.05
BARIUM					
	0.1 - 0.5	.10			0.1
EPA 208.1	.5 - 1.5	.20	84 - 107	79 - 112	
	1.5 - 5.0	.50			
EPA 200.7	.005 - 0.50	.003	93 - 107	89 - 111	.005

PARAMETER	PRECISION RANGE (mg/l)	PRECISION LIMIT (+ or -)	ACCURACY WARNING LIMITS (% Recovery)	ACCURACY ACCEPTANCE LIMITS (% Recovery)	DET. LIMIT (mg/l)
BERYLLIUM					
	.005 - .050	.002	90 - 110	85 - 115	.005
EPA 210.1	.050 - .250	.004			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.001
BIOCHEMICAL OXYGEN DEMAND	2 - 10	2	NOT AVAILABLE		2.0
EPA 405.1	10 - 45	7			
	45 - 100	15			
	100 - 200	30			
BORON					
	0.10 - .50	.10	90 - 110	85 - 115	.10
EPA 212.3	.50 - .75	.29			
	.75 - 1.0	.35			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.005
CADMIUM					
	.001 - .02	.005	90 - 109	86 - 113	.005
EPA 213.1	.020 - .100	.010			
	.100 - .50	.020			
EPA 200.7	.005 - .020	.010	92 - 113	87 - 118	.005
CALCIUM					
	1.00 - 50.0	2.8	87 - 110	81 - 115	.01
EPA 215.1	50.0 - 100.0	5.1			
	100 - 300	18.5			
EPA 200.7	0.1 - 50.0	0.7	89 - 108	84 - 113	0.10
	50.0 - 100.	1.4			
CHEMICAL OXYGEN DEMAND	5 - 50	4.2	90 - 110	85 - 115	5.0
EPA 410.	50 - 500	17.8			

	PRECISION		ACCURACY		DET. LIMIT
PARAMETER	RANGE (mg/l)	LIMIT (+ or -)	WARNING LIMITS (% Recovery)	ACCEPTANCE LIMITS (% Recovery)	(mg/l)
CHLORIDE	1 - 5	.2	96 - 112	92 - 116	1.0
EPA 325.2	5 - 25	.4			
	25 - 50	1.4			
	50 - 100	2.6			
CHROMIUM					
	.05 - .100	.03	79 - 141	64 - 156	.05
EPA 218.1	.100 - .500	.13			
EPA 200.7	.02 - .10	.02	90 - 112	85 - 117	.02
CHROMIUM, HEXAVALENT	.01 - .100	.05	90 - 110	85 - 115	.01
EPA 218.5					
COBALT					
	.05 - 1.00	.05	90 - 110	85 - 115	.05
EPA 219.1	1.00 - 5.00	.10			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.01
COLOR					
EPA 110.1	INSUFFICIENT DATA BASE		NOT AVAILABLE		1.0
COPPER					
	.01 - .05	.01	94 - 115	88 - 121	.01
EPA 220.1	.05 - .30	.02			
	.30 - 1.00	.03			
EPA 200.7	.01 - .300	.010	85 - 112	78 - 119	.01
CYANIDE					
	.001 - .100	.005	90 - 110	115 - 85	.001
EPA 335.2	.100 - .200	.017			
	.200 - .500	.070			

PARAMETER	PRECISION RANGE (mg/l)	PRECISION LIMIT (+ or -)	ACCURACY WARNING LIMITS (% Recovery)	ACCURACY ACCEPTANCE LIMITS (% Recovery)	DET. LIMIT (mg/l)
FLUORIDE					
	.05 - .10	.02	92 - 106	89 - 110	.05
EPA 340.3	.10 - 1.00	.05			
	1.00 - 1.50	.07			
	1.50 - 2.00	.10			
HARDNESS					
	.05 - 15	1.1	87 - 110	82 - 114	.05
EPA 130.2	25 - 200	3.1			
	200 - 500	4.0			
	500 - 750	4.4			
IRON					
	.01 - .20	.02	85 - 117	76 - 125	.01
EPA 236.1	.20 - .50	.03			
	.50 - 1.00	.05			
EPA 200.7	.01 - .20	.010	90 - 111	85 - 116	.01
	.20 - .50	.020			
	.50 - 1.0	.050			
LEAD					
	.05 - .10	.05	87 - 113	80 - 120	.05
EPA 239.1	.10 - .50	.10			
EPA 200.7	.05 - .10	.05	82 - 116	74 - 124	.05
LITHIUM					
ICP	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.005
MAGNESIUM					
	1.0 - 20.0	2.1	87 - 111	81 - 117	.01
EPA 242.1	20. - 50.0	4.6			
	50: - 100	9.6			

PARAMETER	PRECISION RANGE (mg/l)	PRECISION LIMIT (+ or -)	ACCURACY WARNING LIMITS (% Recovery)	ACCURACY ACCEPTANCE LIMITS (% Recovery)	DET. LIMIT (mg/l)
EPA 200.7	.50 - 20.0	.40	91 - 107	88 - 110	.01
	20. - 100	1.8			
MANGANESE					
	.01 - .04	.01	91 - 109	87 - 113	.01
EPA 243.1	.04 - .70	.05			
	.7 - 2.0	.12			
EPA 200.7	.005 - .700	.010	93 - 110	88 - 115	.005
MERCURY					
	.0002 - .0005	.0002	87 - 119	78 - 128	.0002
EPA 245.1	.0005 - .0100	.0003			
	.0100 - .0500	.0007			
ICP	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.05
MOLYBDENUM					
	.1 - 1.50	.10	90 - 110	85 - 115	0.10
EPA 246.1	1.50 - 7.50	.20			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.01
NICKEL					
	.05 - .20	.05	88 - 114	81 - 120	.05
EPA 249.1	.20 - 1.0	.06			
	1.0 - 5.0	.12			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.02
NITROGENS.					
AMMONIA					
	.01 - .10	.01	78 - 122	67 - 133	.01
EPA 350.1	.10 - 1.0	.03			

PARAMETER	PRECISION RANGE (mg/l)	PRECISION LIMIT (+ or -)	ACCURACY WARNING LIMITS (% Recovery)	ACCURACY ACCEPTANCE LIMITS (% Recovery)	DET. LIMIT (mg/l)
KJELDAHL					
	.10 - 1.0	.22	77 - 137	62 - 152	.10
EPA 351.2	1.0 - 10.	.79			
NITRATE + NITRITE	.01 - .10	.01	87 - 119	79 - 127	.01
	.10 - .50	.03			
EPA 353.2	.50 - 2.0	.05			
	2.0 - 4.0	.08			
OIL & GREASE	INSUFFICIENT DATA BASE		92 - 99	90 - 101	1.0
EPA 413.1					
pH	1 - 14	.10	NOT AVAILABLE		x.xx
EPA 150.1					
PHENOLICS					
	.001 - .010	.003	90 - 110	85 - 115	.001
EPA 420.1	.010 - .100	.010			
PHOSPHORUS: ORTHO PHOSPHATE	.001 - .010	.003	88 - 110	83 - 115	.001
	.010 - .020	.006			
EPA 365.1	.020 - .100	.007			
	.100 - 1.00	.01			
TOTAL PHOSPHORUS					
	.001 - .020	.004	86 - 119	77 - 128	.001
	.020 - .10	.020			
EPA 365.1	.10 - 1.00	.06			

PARAMETER	PRECISION RANGE (mg/l)	PRECISION LIMIT (+ or -)	ACCURACY WARNING LIMITS (% Recovery)	ACCURACY ACCEPTANCE LIMITS (% Recovery)	DET. LIMIT (mg/l)
POTASSIUM					
	.2 - .5	.48	93 - 113	88 - 118	
EPA 258.1	.5 - 2.5	.73			.10
	2.5 - 6.0	2.2			
	6.0 - 15.0	4.9			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.2
NON FILTERABLE RESIDUE (TSS)	7 - 20	3.5	NOT AVAILABLE		
	20.0 - 50.0	7.0			
EPA 160.2	50.0 - 150.0	13.0			
	200 - 1000	34.0			
SELENIUM					
	.002 - .010	.002	79 - 115	70 - 124	.002
Automated	.010 - .020	.004			
Gaseous Hydride	.020 - .050	.012			
	.050 - .100	.015			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.08
SILICA					
(SiO2)	2.0 - 5.0	.6	90 - 110	85 - 115	2.0
EPA 370.1	5.0 - 15.0	1.5			
	15. - 30.0	2.0			
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.07
SILVER					
	.01 - .05	.01	90 - 104	86 - 108	.01
EPA 272.1	.05 - .50	INSUFFICIENT DATA BASE			
EPA 200.7	.01 - .05	.03	82 - 105	76 - 111	.01

PARAMETER	PRECISION RANGE (mg/l)	PRECISION LIMIT (+ or -)	ACCURACY WARNING LIMITS (% Recovery)	ACCURACY ACCEPTANCE LIMITS (% Recovery)	DET. LIMIT (mg/l)
SODIUM					
	1.0 - 15.0	1.0	88 - 108	83 - 113	.10
Flame Emission	15.0 - 100	3.			
S.M. 15th	100 - 300	10.			
325B					
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.05
SPECIFIC CONDUCTANCE	.10 - 75	11.7	NOT AVAILABLE		.10
	75 - 560	13.8			
EPA 120.1	560 - 870	35.7			
	870 - 1500	64.2			
STRONTIUM					
ICP	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.001
SULFATE					
EPA 375.2	1.0 - 15.0	1.0	87 - 110	82 - 115	
(low level)	15.0 - 50.0	2.2			
(high level)	20 - 80	4.1			10.0
	80 - 130	5.9			
	130 - 300	15.3			
SULFIDE					
EPA 376.1	INSUFFICIENT DATA BASE		85 - 118	77 - 126	.20
THALLIUM					
EPA 200.7	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.05

PARAMETER	PRECISION RANGE (mg/l)	PRECISION LIMIT (+ or -)	ACCURACY WARNING LIMITS (% Recovery)	ACCURACY ACCEPTANCE LIMITS (% Recovery)	DET. LIMIT (mg/l)
TIN					
	1.0 - 4.0	.80	90 - 110	85 - 115	.80
EPA 282.2	4.0 - 60.0	1.50			
ICP	INSUFFICIENT DATA BASE		90 - 110	85 - 115	.03
TURBIDITY					
	.10 - 1.0	.2	NOT AVAILABLE		.02
EPA 180.1	1.0 - 10.0	.8			
	10.0 - 40.0	2.8			
VANADIUM					
	.5 - 10.0	.3	90 - 110	85 - 115	.2
EPA 286.1	10.0 - 50.0	.6			
EPA 200.7	INSUFFICIENT DATE BASE		90 - 110	85 - 115	.01
ZINC					
	.005 - .030	.004	94 - 113	89 - 118	.005
EPA 289.1	.030 - .100	.010			
	.100 - .500	.015			
	.500 - 1.00	.050			
EPA 200.7	.005 - .030	.013	88 - 113	82 - 119	.005
	.030 - .100	.039			

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Appendix B. Quality Assurance Limits for Carbon Furnace Metals Analyses Performed by Energy Labs, Inc.

Detection Limits

Metal	Detection Limit (μg/l)
Copper	1
Zinc	0.05
Lead	1
Cadmium	0.1

Achieved Laboratory Precision*

Metal and Concentration Range (μg/l)**	Precision (+ or - μg/l)
Copper	
<1-25 (16)	2.4
25-100 (3)	5.4
Zinc	
<.05-20 (4)	1.1
20-100 (7)	1.9
Lead	
<1-25 (18)	2.5
25-100 (1)	39
Cadmium	
<.1-5 (19)	0.4
5-10 (0)	---

Achieved Laboratory Accuracy*

Metal**	Accuracy (%)
Copper (18)	101±16
Zinc (12)	102±13
Lead (18)	104±17
Cadmium (18)	100±28

* Laboratory precision and accuracy computed for 3 standard deviations (99% confidence) using performing laboratory duplicate and spike sample analysis data and methods given in the Handbook for Analytical Quality Control in Water and Wastewater Laboratories, Chapter 6, EPA-600/4-79-019, March, 1979, U.S. EPA, Cincinnati, Ohio 45268.

** Value in parenthesis following each element is the actual number of paired duplicate or spiked sample analyses from which the corresponding precision or accuracy was computed.

Appendix C. Water Sample Preservation and Handling Methods
(Source: "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, Revised March 1983)

SAMPLE PRESERVATION

Complete and unequivocal preservation of samples, either domestic sewage, industrial wastes, or natural waters, is a practical impossibility. Regardless of the nature of the sample, complete stability for every constituent can never be achieved. At best, preservation techniques can only retard the chemical and biological changes that inevitably continue after the sample is removed from the parent source. The changes that take place in a sample are either chemical or biological. In the former case, certain changes occur in the chemical structure of the constituents that are a function of physical conditions. Metal cations may precipitate as hydroxides or form complexes with other constituents; cations or anions may change valence states under certain reducing or oxidizing conditions; other constituents may dissolve or volatilize with the passage of time. Metal cations may also adsorb onto surfaces (glass, plastic, quartz, etc.), such as, iron and lead. Biological changes taking place in a sample may change the valence of an element or a radical to a different valence. Soluble constituents may be converted to organically bound materials in cell structures, or cell lysis may result in release of cellular material into solution. The well known nitrogen and phosphorus cycles are examples of biological influence on sample composition. Therefore, as a general rule, it is best to analyze the samples as soon as possible after collection. This is especially true when the analyte concentration is expected to be in the low ug/1 range.

Methods of preservation are relatively limited and are intended generally to (1) retard biological action, (2) retard hydrolysis of chemical compounds and complexes, (3) reduce volatility of constituents, and (4) reduce absorption effects. Preservation methods are generally limited to pH control, chemical addition, refrigeration, and freezing.

The recommended preservative for various constituents is given in Table 1. These choices are based on the accompanying references and on information supplied by various Quality Assurance Coordinators. As more data become available, these recommended holding times will be adjusted to reflect new information. Other information provided in the table is an estimation of the volume of sample required for the analysis, the suggested type of container, and the maximum recommended holding times for samples properly preserved.

TABLE 1

RECOMMENDATION FOR SAMPLING AND PRESERVATION OF SAMPLES ACCORDING TO MEASUREMENT[1]

Measurement	Vol. Req. (ml)	Container[2]	Preservative[3,4]	Holding Time[5]
100 Physical Properties				
Color	50	P,G	Cool, 4°C	48 Hrs.
Conductance	100	P,G	Cool, 4°C	28 Days
Hardness	100	P,G	HNO_3 to pH <2	6 Mos.
Odor	200	G only	Cool, 4°C	24 Hrs.
pH	25	P,G	None Req.	Analyze Immediately
Residue				
Filterable	100	P,G	Cool, 4°C	7 Days
Non-Filterable	100	P,G	Cool, 4°C	7 Days
Total	100	P,G	Cool, 4°C	7 Days
Volatile	100	P,G	Cool, 4°C	7 Days
Settleable Matter	1000	P,G	Cool, 4°C	48 Hrs.
Temperature	1000	P,G	None Req.	Analyze Immediately
Turbidity	100	P,G	Cool, 4°C	48 Hrs.
200 Metals				
Dissolved	200	P,G	Filter on site HNO_3 to pH <2	6 Mos.
Suspended	200		Filter on site	6 Mos.[8]
Total	100	P,G	HNO_3 to pH <2	6 Mos.

TABLE 1 (CONT)

Measurement	Vol. Req. (ml)	Container[2]	Preservative[3,4]	Holding Time[5]
Chromium[+6]	200	P,G	Cool, 4°C	24 Hrs.
Mercury				
Dissolved	100	P,G	Filter HNO_3 to $pH < 2$	28 Days
Total	100	P,G	HNO_3 to $pH < 2$	28 Days
300 Inorganics, Non-Metallics				
Acidity	100	P,G	Cool, 4°C	14 Days
Alkalinity	100	P,G	Cool, 4°C	14 Days
Bromide	100	P,G	None Req.	28 Days
Chloride	50	P,G	None Req.	28 Days
Chlorine	200	P,G	None Req.	Analyze Immediately
Cyanides	500	P,G	Cool, 4°C NaOH to pH >12 0.6g ascorbic acid[6]	14 Days[7]
Fluoride	300	P,G	None Req.	28 Days
Iodide	100	P,G	Cool, 4°C	24 Hrs.
Nitrogen				
Ammonia	400	P,G	Cool,4°C H_2SO_4 to $pH < 2$	28 Days
Kjeldahl, Total	500	P,G	Cool, 4°C H_2SO_4 to $pH < 2$	28 Days
Nitrate plus Nitrite	100	P,G	Cool, 4°C H_2SO_4 to $pH < 2$	28 Days
Nitrate[9]	100	P,G	Cool, 4°C	48 Hrs.
Nitrite	50	P,G	Cool, 4°C	48 Hrs.

TABLE 1 (CONT)

Measurement	Vol. Req. (ml)	Container[2]	Preservative[3,4]	Holding Time[5]
Dissolved Oxygen				
Probe	300	G bottle and top	None Req.	Analyze Immediately
Winkler	300	G bottle and top	Fix on site and store in dark	8 Hours
Phosphorus				
Ortho-phosphate, Dissolved	50	P,G	Filter on site Cool, 4°C	48 Hrs.
Hydrolyzable	50	P,G	Cool, 4°C H_2SO_4 to pH < 2	28 Days
Total	50	P,G	Cool, 4°C H_2SO_4 to pH < 2	28 Days
Total, Dissolved	50	P,G	Filter on site Cool, 4°C H_2SO_4 to pH < 2	24 Hrs.
Silica	50	P only	Cool, 4°C	28 Days
Sulfate	50	P,G	Cool, 4°C	28 Days
Sulfide	500	P,G	Cool, 4°C add 2 ml zinc acetate plus NaOH to pH >9	7 Days
Sulfite	50	P,G	None Req.	Analyze Immediately
400 Organics				
BOD	1000	P,G	Cool, 4°C	48 Hrs.
COD	50	P,G	Cool, 4°C H_2SO_4 to pH < 2	28 Days
Oil & Grease	1000	G only	Cool, 4°C H_2SO_4 to pH < 2	28 Days
Organic carbon	25	P,G	Cool, 4°C H_2SO_4 or HCl to pH < 2	28 Days
Phenolics	500	G only	Cool, 4°C H_2SO_4 to pH <2	28 Days

TABLE 1 (CONT)

Measurement	Vol. Req. (ml)	Container[2]	Preservative[3,4]	Holding Time[5]
MBAS	250	P,G	Cool, 4°C	48 Hrs.
NTA	50	P,G	Cool, 4°C	24 Hrs.

1. More specific instructions for preservation and sampling are found with each procedure as detailed in this manual. A general discussion on sampling water and industrial wastewater may be found in ASTM, Part 31, p. 72–82 (1976) Method D-3370.

2. Plastic (P) or Glass (G). For metals, polyethylene with a polypropylene cap (no liner) is preferred.

3. Sample preservation should be performed immediately upon sample collection. For composite samples each aliquot should be preserved at the time of collection. When use of an automated sampler makes it impossible to preserve each aliquot, then samples may be preserved by maintaining at 4°C until compositing and sample splitting is completed.

4. When any sample is to be shipped by common carrier or sent through the United States Mails, it must comply with the Department of Transportation Hazardous Materials Regulations (49 CFR Part 172). The person offering such material for transportation is responsible for ensuring such compliance. For the preservation requirements of Table 1, the Office of Hazardous Materials, Materials Transportation Bureau, Department of Transportation has determined that the Hazardous Materials Regulations do not apply to the following materials: Hydrochloric acid (HCl) in water solutions at concentrations of 0.04% by weight or less (pH about 1.96 or greater); Nitric acid (HNO_3) in water solutions at concentrations of 0.15% by weight or less (pH about 1.62 or greater); Sulfuric acid (H_2SO_4) in water solutions at concentrations of 0.35% by weight or less (pH about 1.15 or greater); Sodium hydroxide (NaOH) in water solutions at concentrations of 0.080% by weight or less (pH about 12.30 or less).

5. Samples should be analyzed as soon as possible after collection. The times listed are the maximum times that samples may be held before analysis and still considered valid. Samples may be held for longer periods only if the permittee, or monitoring laboratory, has data on file to show that the specific types of sample under study are stable for the longer time, and has received a variance from the Regional Administrator. Some samples may not be stable for the maximum time period given in the table. A permittee, or monitoring laboratory, is obligated to hold the sample for a shorter time if knowledge exists to show this is necessary to maintain sample stability.

6. Should only be used in the presence of residual chlorine.

7. Maximum holding time is 24 hours when sulfide is present. Optionally, all samples may be tested with lead acetate paper before the pH adjustment in order to determine if sulfide is present. If sulfide is present, it can be removed by the addition of cadmium nitrate powder until a negative spot test is obtained. The sample is filtered and then NaOH is added to pH 12.

8. Samples should be filtered immediately on-site before adding preservative for dissolved metals.

9. For samples from non-chlorinated drinking water supplies conc. H_2SO_4 should be added to lower sample pH to less than 2. The sample should be analyzed before 14 days.

Appendix C. Scheme for Determining Streamflows at Shallow-water Monitoring Stations

Station	Streamflow Determination Method*	Comments
01	Add flows measured by USGS at stations Clark Fork near Clinton and Rock Creek near Clinton.	Recorded as measured flow.
02	Monitoring station located at USGS station Blackfoot River near Bonner.	Recorded as measured flow.
04	USGS station Clark Fork above Missoula.	Recorded as measured flow.
05	Same as station 04.	Recorded as measured flow.
06	Same as station 04.	Estimate only. Does not include additions from Rattlesnake Creek or known losses to ground-water above this station.
07	WWTP flow recorder.	Recorded as measured flow.
08	USGS station Clark Fork above Missoula plus WWTP flow (rounded).	Estimate only for same reasons as station 06.
09	Same as station 08.	Estimate only.
10	Subtract flow at station 08 from flow at USGS station Clark Fork below Missoula.	Very rough estimate only. Maybe an underestimation due to overestimation of Station 08 flow.
11	USGS station Clark Fork below Missoula.	Recorded as measured flow.
12	Flowmeter(s) at Champion outfall(s).	Recorded as measured flow.
13	USGS station Clark Fork below Missoula plus Champion flow (rounded).	Recorded as estimate.
14	Same as station 13.	Estimate.
15	Same as station 13.	Estimate.
16-20	No flows recorded.	Estimate.
21	USGS station Clark Fork near St. Regis.	Recorded as measured flow.
22	Same as station 21.	Estimate.
23	Subtract flow at station 21 from flow at USGS station Clark Fork at Plains.	Estimate.
24	USGS station Clark Fork at Plains.	Recorded as measured flow.
25	Same as station 24.	Estimate.

Appendix C. Continued

Station	Streamflow Determination Method*	Comments
27	Add flow measured by MPC at Thompson Falls Dam to flow at USGS station Prospect Creek at Thompson Falls.	Recorded as measured flow.
29	USGS and WWP station Clark Fork below Noxon Rapids Dam.	Recorded as measured flow.
31	USGS station Clark Fork at Whitehorse Rapids.	Recorded as measured flow.

LEACHABLE TEST:

1. Sediment was dried, rocks were removed, and a portion was ground with a mortar and pestle.

2. An amount close to 1.00 g was weighed out. The weight differed from 1.00 g by less than 1%.

3. The weighed portion was placed in a vessel along with 1 L of .5% HNO_3.

4. The vessel was shaken each day for 10 days.

5. On the 10th day, the liquid was decanted off and analyzed for metals on the ICP unit except for Arsenic which was analyzed by the Hydride meth d.

TOTAL TEST:

1. Same as Step 1 of LEACHABLE test.

2. Approximately .25 g was weighed out.

3. The weighed portion was placed in a Teflon digestion vessel along with 1.2 ml of conc. HNO_3 and 3.8 ml of conc. HCl.

4. The vessel was capped and microwaved for 3 minutes.

5. The contents of the vessel was diluted to 50 ml and analyzed for metals on the ICP unit except Arsenic.

6. Note that silica and metals bound in the silica may not be completely recorded by this procedure.

Appendix C. Description of method of Computing Time-Weighted Mean Dissolved Oxygen and Temperature.

The time-weighted dissolved oxygen and temperature values in Table 14 were computed as follows. For each station a 1-day period was chosen that centered around the approximate 1-day period over which the diurnal sampling was done. The time-weighted values were calculated by the following formula:

$V_{tw} = V_1(dT)_1 + V_2(dT)_2 + \ldots + V_n(dT)_n$, where

$V_1 \ldots V_n$ are the measured values of dissolved oxygen or temperature over the approximate 1-day period, and $(dT)_1 \ldots (dT)_n$ are the time intervals in days associated with each of the n samples.

The time interval for a given sample begins at the midpoint to the previous sample and ends at the midpoint to the next sample with two exceptions: the first time interval begins at the beginning of the chosen, exact 1-day period and the last time interval ends at the end of that period.

The time-weighted values are close approximations to those that would be obtained if samples were taken at exact, regular intervals and simply averaged without any weighting. Thus the weighting is done to compensate for the irregularity of the time intervals between samples.

Appendix C. Description of the Modified Traveling-Kicknet Macroinvertebrate Sampling Technique Used in the Lower Clark Fork Study

The technique used in this study for collection of benthic macroinvertebrate samples was a modification of a method described by Kinney et al (1977)[1]. An aquatic "D"-net (Ward's 10W0620) with a 36 centimeter (cm) long nylon net composed of 9 strands/cm (22 mesh) was used to collect untimed, approximately equal-surface area kick samples of Clark Fork mainstem and major tributary macrobenthos.

Samples were collected by holding the net at arms length in front of and downstream from the investigator while traveling slowly downstream and vigorously kicking and overturning the streambed material to a depth of several inches. The entire contents of the net were transferred to pint or quart glass jars, preserved in 70% ethanol and returned to the laboratory for sorting, organism counting and species identifications.

Five samplings were conducted at each of the shallow-water biological monitoring stations on a seasonal basis from March 1984 to August 1985. During the initial sampling (Spring 1984), only one sample was collected from each station. Approximately 4 square feet was disturbed in an area of moderately fast current (about 1.5 to 2.5 ft./sec.) followed by the disturbing of about two square feet in slow to moderate current (about 0.5-1.5 ft./sec.). The combined sampling constituted one sample; the net contents were transferred to the sample jar after each area had been sampled. Where possible, rich sites (those with piles of rocks providing a large area for colonization) were selected at each station. Riffles were selected for the moderately fast water samplings whenever available.

During subsequent seasonal samplings (summer, fall 1984; spring, summer 1985), four smaller surface area replicates were collected at each station in order to increase the statistical reliability of the data. Each replicate was collected by disturbing about two square feet in moderately fast current followed by about one square foot in slow to moderate current. Organisms were identified and counted in each replicate. However, for purposes of data analysis, results of the four replicates were pooled.

References

1) Kinney, W.L. Pollard, J.E. and C.H. Hornig. In Press. Comparison of Macroinvertebrate Sample As They Apply to Streams of Semi-Arid Regions. Proceedings of the Fourth Joint Conference on Sensing of Environmental Pollutants, November 1988, New Orleans, LA 1977.

METHODS OF COLLECTION AND ANALYSIS FOR PERIPHYTON AND PHYTOPLANKTON

Natural Substrate Periphyton-Taxonomic Identification and Enumeration

Sample Collection

Periphyton was collected from natural substrates with the object of obtaining a composite sample of algae roughly in the same proportion as they existed in the stream. Each type of substrate present (rocks, silt, woody material, higher aquatic plants) was sampled in proportion to its importance as a substrate at that site. Substrates exposed to different current velocities and depth (riffles or pools, for example) were sampled, again roughly in proportion to the extent these conditions prevailed at a site.

The collection procedure consisted of scraping the film of attached algae from the substrate with a knife blade or metal spoon. Green filaments and tufts of macroscopic algae and green or brown "slime" (composed largely of microscopic diatom algae) were sampled in proportion to their spatial extent on each substrate type. The periphyton material was composited into a small bottle containing stream water, preserved with several milliliters of Lugol's (IKI) and transported on ice to the laboratory. Samples were refrigerated until analyzed.

Sample Analysis

Analyses consisted of identifying the taxa of soft-bodied (non-diatom) algae to the genus level, estimating the relative abundance and rank by volume of each taxon, and performing detailed taxonomic identifications and proportional counts of diatom algae to the species level.

To prepare a sample for identification of soft-bodied algae, the contents were emptied into a porcelain evaporating dish, and the periphyton material was teased apart with forceps and a disecting needle. Portions of conspicuous filamentous algae and other aggregations were placed on a welled microscope slide, along with 2-3 drops of non-descript periphyton "soup . The latter usually contained large numbers of microscopic soft-bodied and diatom algae. Again, a careful attempt was made to sub-sample each fraction in proportion to their importance in the original collection. A glass cover slip was placed over the material, and the slide preparation was thoroughly scanned under the microscope at 100X and 400X. Diatom algae were not identified at this time, and all taxa were considered collectively for estimating their numbers relative to other algae. Non-diatom algae were identified to genus, and the relative abundance of each was estimated using the following scheme:

R = rare; alga encountered very few times, < 5% of fields examined.
C= common; alga encountered frequently, but present in no more than 25% of microscope fields examined.
VC = very common; alga encountered very frequently, present in up to 50% of microscope fields examined.
A = abundant; alga present in essentially 100% of fields examined, but usually makes up much less than half of the number of algae in a

given field.

VA = very abundant; alga present in essentially 100% of fields examined often accounting for half or more of the algae in a given field

VVA = very, very abundant; present in large numbers in 100% of fields examined, often comprising 80-90% of algae in a given field.

The latter category was generally applied to diatom algae, which were comprised of many genera and were often present in very large numbers and greatly dominated the total number of algae present.

The soft-bodied genera and the diatom assemblage were ranked numerically by estimating the volume they occupied in the sample. By this system it was possible for a very large filamentous alga, estimated as common, to "outrank" a single-celled form that was abundant, but had a much smaller collective volume.

After soft-bodied analyses were completed, the remainder of the sample was prepared for diatom taxonomy and proportional counts. Cleaning of the diatom material was accomplished with nitric acid and potassium dichromate (A.P.H.A. 1979), and a permanent diatom slide was prepared using Hyrax mounting medium (A.P.H.A. 1979).

Diatoms were scanned under oil immersion at a magnification of 1000X, and all taxa encountered were identified to at least the species level, if possible. A sufficient number of cells were scanned to be reasonably sure that the dominant taxa had been identified (up to one traverse of the cover slip). Between 300 and 450 diatom frustules were then counted, and the percent relative abundance of each taxon was calculated. The Shannon species diversity was calculated for each sample and taxa were ranked according to pollution tolerance by the system of Lange-Bertalot (1979).

Natural Substrate Periphyton - Chlorophyll and Biomass Analyses

Sample Collection

An attempt was made to choose similar conditions at each sample site, i.e. approximately the same substrate size, water depth and current velocity. Generally, large cobbles (15-25 cm in diameter) at 40-50 cm depth and 1-1.5 feet/second current velocity were sampled. These conditions were usually found 1-3 meters from the bank.

A representative rock was removed from the stream bottom, roughly maintaining its orientation. With a metal spatula or spoon, periphyton was scraped from the top surface of the rock and placed into a labeled 50 ml centrifuge tube, until a sample volume of 15 ml was obtained. A minimum amount of water was included with the periphyton material.

The centrifuge tube was then wrapped with aluminum foil to exclude light. Samples were kept on ice for the return trip to the lab, and were stored in the freezer until analyzed.

Sample Analysis

Chlorophyll

Samples to be analyzed were removed from the freezer and allowed to thaw. To each sample, 10 ml of 90% aqueous acetone solution was added, and the periphyton was thoroughly disrupted by grinding the material against the side of the tube with a glass stirring rod. An additional 20 ml of acetone solution was added and the tubes tightly capped. Samples were placed in a cold water sonic bath and sonified on high for 15 minutes. After steeping at $4^{o}C$ for 24 hours, the sonification was repeated. Samples were clarified by centrifugation at 500G for 20 minutes. Chlorophyll measurements were made with a Perkin-Elmer Model 200 Spectrophotometer having a band width of 1 nm. The optical density (OD) of each sample solution was determined at 750, 664, 647, 630 and 430 nm, and after acidification at 665 nm.

Chlorophyll *a* was calculated using the following trichromatic equation after correcting the optical density values for turbidity (OD 750):

Chlorophyll *a* (mg/l) = 11.85(OD 664)-1.54(OD 647)-0.08 (OD 630)

The ratio of chlorophyll *a* to pheophytin *a* was calculated as the ratio of OD 664 to OD 665 according to Standard Methods (A.P.H.A. 1979).

The Stability Index, the ratio of yellow pigment (carotene) to green pigment (chlorophyll), was calculated as the ratio of OD 430 to OD 664.

Biomass

After analyzing for chlorophyll, the periphyton material and acetone solution were emptied into a Vicor glass crucible, evaporated under a fume hood, and dried to constant weight at $105^{o}C$. Ash-free weight (biomass) was obtained according to Standard Methods (A.P.H.A. 1979).

The Autotrophic Index was calculated as the mass ratio of biomass to chlorophyll *a*.

Artificial Substrate Periphyton - Chlorophyll and Biomass Analyses

Sample Collection

The artificial substrates employed consisted of eight standard microscope slides held in commercial plastic carriages (Periphytometer II). Each carriage was tied to a cement cinder half-block, 8" x 16" x 4" thick. Five replicate substrates were placed at each of nine stream sites. The block/carriage unit was worked into the stream-bottom cobbles deep enough to place the slides slightly above the natural bottom, with their long axes parallel to the current. The water depth and current velocity were measured at each substrate. Placement locations were chosen and adjusted to achieve conditions that were as similar as possible between replicates and when practical between sites. Exposure time was approximately two weeks, but because of sampling logistics, ranged from 14.2 to 16.0 days. At the end of the exposure period the substrates and blocks were removed and the slides carefully removed as not to disturb the attached periphyton. Seven slides from each of the replicates at a site were placed in an opaque

plastic storage box and transported to the laboratory on ice. The slides were stored in a freezer until chlorophyll and biomass analyses were performed. The eighth slide from each replicate was placed in a 50 ml centrifuge tube, preserved with several drops of Lugols solution and stored for future taxonomical identifications.

Sample Analysis

Chlorophyll analyses were performed in the same manner as the natural substrate periphyton samples, with the following procedural exceptions. Slides were removed from the freezer immediately before beginning analyses, and were shielded from direct light and heat to minimize degradation of the chlorophyll. Periphyton from each seven-slide replicate was carefully and thoroughly scraped into a foil-covered beaker, then rinsed into 50 ml foil-covered centrifuge tubes with 25 ml of 90% acetone solution. Chlorophyll a concentration was calculated as milligrams/meter^2, and accrual as mg/m^2/day.

Biomass analyses were performed in the same manner as the natural substrate samples. Biomass was calculated as milligrams/meter^2 and accrual as mg/m^2/day.

Phytoplankton-Taxonomic Identification and Enumeration

Sample Collection

Single 250 ml grab samples from the surface (6-10 inches depth) were collected from each reservoir during the April, July and October, 1984 monitoring runs. The March, 1985 samples were euphotoic zone composites taken with a VanDorn water sampler at the surface, Secchi Disc depth and midway between. roughly equal volumes were composited from each depth. The July, 1985 samples were euphotic zone composites taken at the surface and Secchi Disc depth only. All samples were preserved with Lugols (IKI) and iced for transport to the laboratory. Samples were refrigerated until analyzed.

Sample Analysis

A Sedgwick-Rafter counting cell was employed for phytoplankton identification and enumeration according to Standard Methods (A.P.H.A. 1979). Scans and counts were performed at 200X. Algae were identified to genus when possible, and the distinction was made between viable and dead algae. For each genus, the number of cells per milliliter was calculated.

Phytoplankton - Chlorophyll Analyses

Sample Collection

Samples were collected in one gallon collapsible poly containers at the same time and by the same methods as samples for phytoplankton taxonomy and enumeration. They were transported to the laboratory on ice, and were stored in a freezer until analyzed.

Sample Analysis

The same methods were used to determine chlorophyll in phytoplankton as were used for periphyton, with the following variations. Samples were allowed to thaw at room temperature in the dark to minimize degradation of chlorophyll. A foil-wrapped glass Millipore filter holder and funnel with Whatman GF/C glass fiber filters were used to collect the phytoplankton. After thorough agitation, 250 ml aliquots of sample were filtered under vacuum until the filter clogged or the sample was consumed. The total volume filtered was recorded and the filter transferred to a foil-wrapped centrifuge tube. Because of generally low phytoplankton densities, a maximum of 15 ml of 90% acetone was added to minimize dilution of the chlorophyll. Each filter was thoroughly masticated and the samples prepared and analyzed according to the method described for natural substrate periphyton. Chlorophyll was calculated as milligrams per cubic meter.

References

American Public Health Association, et al. 1979. Standard methods for the Examination of Water and Wastewater. Fifteenth Edition. A.P.H.A., Washington, D.C. 1193 pages.

Lange-Bertalot, H. 1979. Pollution Tolerance of Diatoms as a Criterion for Water Quality Estimation. Nova Hedwigia, Beiheft 64, pp. 285-304.

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
3-5-84	01	River clear. Heavy periphyton growth.	Cloudy, cool, 35°F.
5	02	River clear.	Cloudy, windy, cool.
5	03	Reservoir clear.	
3-6-84	04	Small patches of foam on river.	Clear.High of 45°F.
6	05	River bottom ice-scoured. Some foam.	
6	06	Traces of foam.	
6	07	Substantial foam on discharge.	
6	08	Moderate turbidity. Sewage odor.	
6	09	TSS noticeable. Numerous sloughing cutbanks above site.	
3-5-84	10	River clear. Patches of foam on river. Large accumulation near shore.	
3-6-84	11	Very hvy periphyton.Small patches of foam.	
6	12	Sampled Pond 9 outfall. H_2S odor apparent. Ponds ice-covered.	
6	13	Heavy periphyton. High color in seepage areas near shore.	
3-7-84	14	Station not yet established. No samples.	Clear,sunny,warm.
7	15	Evidence of ice-scouring.Minor surface foam.	
7	16	Large accumulation of foam present.	
7	17	Heavy periphyton.	
7	18	Heavy periphyton.	
7	19	Heavy periphyton. Moderate turbidity due to algal particulate?	
7	20	Heavy periphyton.Slight to mod. turbidity.	
3-8-84	21	Above St. Regis River. Heavy periphyton. Patches of foam.	Clear, sunny.
8	22	Sizeable foam accumulations between 21 and 22.	
8	23	No foam. River clear.	Windy.
8	24	Hvy periphyton. Considerable organic TSS.	
8	25	Just above Thompson River. Traces of foam.	Cloudy,windy,cool.
8	26	Reservoir clear.	
3-9-84	27	Wet shoreline due to peaking or Noxon Reservoir drawdown.	Cloudy, cool, light rain.
9	28	Reservoir down 4 ft. Considerable TSS.	
9	29	River clr. Hvy periphyton.Traces of foam.	
9	30	Reservoir clear.	
	31	Station not yet established. No samples.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
4-4-84	01	Slight turbidity. River stage up.	Clear,sunny,warm.
4	02	Slight turbidity.	
4	04	Slight turbidity. Patches of foam.	
4	06	Slight turbidity.	
4	07	Discharge highly turbid, colored and foul smelling.	
4	09	Slight turbidity.	
4	10	River very clear. Foam accumulations present.	
4	11	River clear.	
4	12	Sampled Pond 9 outfall. Ice off ponds.	
4	15	Very slight turbidity. Small foam accumulation present.	
4	21	Site relocated below St. Regis River. River clear.	
4	23	Wave action causing turbidity.	Windy.
4-5-84	25	River clear. Site relocated several miles above Thompson R.	Cloudy,cool,rain last night.
5	27	River clear but with a greenish-murky cast in deep water.	
4-6-84	29	River clear.	
6	31	River clear.	
4-17-84	01	Runoff beginning. River turbid.	Weather hazy,unseasonably warm. High's 70-75°F.
17	02	River turbid.	
17	04	River quite turbid. Considerable TSS.	
17	06	River turbid.	
17	07	Discharge slightly more turbid than river.	
17	09	River turbid.	
17	10	River stage up only slightly but turbidity is high. Foam accumulations gone.	
17	11	River turbid. Trace of foam on river.	
17	12	Discharge sampled by M. Pasichnyk, Compliance Monitoring.	
17	15	River turbid. Noticeably high TSS.	
17	21	River less turbid than Station 15 but noticeable TSS.	
17	23	River low and clear.	Light rain.
17	25	River only slightly turbid but with noticeable TSS.	
4-18-84	27	River quite clear.	Cloudy, cool. Rain last night.
18	29	River clear.	
18	31	River clear.	

Appendix D. Condensed Field Notes - Part I
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
5-16-84	01	High flow. River highly turbid, chocolate milk-colored. Eroding banks.	Recent heavy rains Cloudy,cool,inter- mittent rain/sleet.
16	02	High flow. River turbid but less than Station 01.	
16	04	High flow. River up into willows. Highly turbid.	
16	06	River highly turbid.Much coarse debris.	
16	07	Effluent clearer than river.	
16	09	Highly turbid. Much coarse debris.	
16	10	High flow. River highly turbid, olive green-brown color.	
16	11	River turbid.Trees floating by.No foam.	
16	12	Discharge 001 has stronger odor than 003.	
16	15	River appears more turbid than Station 11. Foam present.	
16	21	St. Regis R. clear. Highly turbid here.	
16	23	River has a very slight turbidity. Milky green but not dirty.	
5-17-84	25	River highly turbid, much fine TSS. Thompson River clear.	Clear, sunny.
17	27	River turbid but less so than Station 25.	
17	29	River clear. Runoff has not yet purged lower river.	
17	31	River clear. Bull River clear.	
6-4-84	01	High flow.River turbidity less than 5-16-84. Eroding banks.	Cloudy, light rain.
4	02	High flow. Reduced turbidity.	
4	04	High flow. Reduced turbidity. Small patches of foam on river.	
4	06	High flow. Moderate turbidity.	
4	07	Effluent turbidity about same as river.	
4	09	Moderate turbidity. Eroding banks upstream.	
4	10	High flow, high turbidity. Large and small patches of foam on river.	
4	11	Moderate turbidity.	
4	12	Foam on river above and below discharges.	
4	15	Moderate turbidity. Numerous small patches of foam on river.	
4	21	St. Regis River clear.Mod. turbid here.	
4	23	Slightly turbid. Glacial flour green colored.	
4	25	Mod.to high turbidity.Much fine TSS.	
6-5-84	27	High turbidity, up from 5-17-84.	Partly cloudy.
5	29	Increased turbidity from 5-17-84. Large patches of foam present. (spilling at dam?)	
5	31	Increased turbidity. Large patches of foam present. (spilling at dam?)	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
6-20-84	01	River high and turbid.	Partly cloudy, warm.
20	02	River high and turbid but beginning to clear.	
20	04	Moderately high turbidity. Small patches of foam.	
20	06	High turbidity, high TSS. Some foam.	
20	07	Effluent highly turbid.	
20	09	High turbidity and TSS.	
20	10	River is a turbid green color but beginning to clear.	
20	11	Moderately high turbidity. Small foam patches present.	
20	12	Nothing unusual.	
20	15	Mod. high turbidity like Station 11. Larger patches of foam present.	Rain showers.
20	21	Mod. turbidity & clearing. Foam traces.	
20	23	High flow, mod. greenish turbidity.	Wind, raining.
20	25	Moderate turbidity and clearing.	
6-21-84	27	Mod. turbidity. Coarse particulate debris present.	Heavy rain.
21	29	Mod. turbidity. TSS is fine clay. No foam.	
21	31	Mod. turbidity & clearing. Lge patches of white foam (spilling at dam?)	
7-10-84	01	Runoff subsiding. River clear.	Clear, sunny, warm.
10	02	River clear.	
10	04	River mod. turbid due to Milltown drawdown. Traces of foam.	
10	06	River mod. turbid & considerable TSS present due to Milltown drawdown.	
10	07	Effluent highly turbid. Aerator down 1 hr. after sampling & plant providing only primary treatment	
10	09	Slight turbidity. Traces of foam.	
10	10	River very clear. Only traces of foam.	
10	11	River clear. Traces of foam.	
10	12	Plant down for annual maint. since 6-26. Low discharge rate not typical.	
10	15	Slight turbidity. Noticeably more TSS than at Sta. 11. Large bulky patches of foam on river.	
10	21	River very clear but some fine TSS.	
10	23	River warm, low, turbid--soupy looking.	
10	25	River clear.	
7-11-84	27	Banks wet from peaking at dam? River cloudy with fine TSS.	Clear, sunny, warm.
11	29	River cloudy, soupy looking.	
11	31	Very slight cloudiness. No foam.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
7-16-84	01	River low and clear.	Clear, sunny, warm.
16	02	River low and clear.	
16	04	Milltown drawdown still in progress. River highly turbid. Much TSS.	
16	06	River highly turbid. Traces of foam.	
16	07	Aerator shaft repaired. Plant operating normally.	
16	09	River highly turbid but less than Station 06.	
16	10	River low and clear. Traces of foam.	
16	11	Moderately high turbidity.	
16	12	Plant back in operation.	
16	15	River highly turbid. Appreciable TSS. Large foam patches on river.	
16	21	River very clear.	
16	23	Very slight turbidity, soupiness.	
16	25	River very clear. No foam.	
7-17-84	27	River w/slight turb., soupiness.	Clear, sunny, warm.
17	29	River low and clear.	
17	31	River low and clear. No foam.	
8-14-84	01	River low and clear.	Clear, sunny, warm.
14	02	River low and clear.	
14	04	Very slight turbidity. No foam.	
14	06	Very slight turb. Less than Sta. 04	
14	07	Effluent highly turbid & foamy.	
14	09	River clear. Traces of foam.	
14	10	River very low & clear. Minor accumulations of foam.	
14	11	River very low & clear. Foam traces.	
14	12	Nothing unusual.	
14	15	River clear but with noticeable TSS. Lge patches of foam on river.	
14	21	River very low & clear. Small patches of foam on river.	
14	23	River low & very slightly turbid.	
14	25	River low & clear. Foam traces.	
8-15-84	27	River low & very slightly turbid.	Clear, sunny, warm.
15	29	River low and clear.	
15	31	River low & clear. Small patches of foam on river.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
7-30-84	01	Slight turb.& river stage up due to recent rain.Good periphyton growth.	Heavy rain yesterday. Clr,sunny,warm today.
30	02	River clear. Apparently not influenced by rain.	
30	03	Slight cloudiness due to organic TSS.	
30	04	Very slight turbidity. Noticeable TSS. Traces of foam.	
30	05	River clear.	
30	06	River clear.	
30	07	Effluent turbid.	
30	08	Mod. turbidity due to WWTP discharge. Heavy periphyton.	
30	09	Slight turbidity.Heavy periphyton.	
30	10	River very clear. Foam accumulations present.	
30	11	Heavy periphyton growth.	
30	12	Nothing unusual.	
30	13	Sizeable patches of foam on river.Good periphyton growth.	
7-31-84	14	Sizeable patches of foam near right bank. Considerable TSS & slight to moderate turbidity.	Mostly clear,warm.
31	15	Slight to moderate turbidity.	
31	16	Mod.turbidity.Noticeable TSS. Numerous large foam patches.	
31	17	Slight turbidity.Noticeable TSS.	
31	18	River clearer than upstream stations. Foam on river & accumulations nr.shore.	
31	19	Slight turbidity & some TSS.	
8-01-84	20	Slight turb.Noticeable organic TSS.	Cloudy, cooler
01	21	River clear.	
01	22	River clear but w/organic TSS.	
01	23	Slight turbidity, cloudiness.	Rain shower.
01	24	Slight turbidity.Medium-sized patches of foam on river.	
01	25	Slight turbidity. Traces of foam.	
01	26	Slight turbidity.	
8-02-84	27	Slight turbidity.	Partly cloudy,warm.
02	28	Reservoir clear.	
02	29	River clear.	
02	30	River clear.	Light rain.
02	31	River clear.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
9-13-84	01	River low & clear. Foam accumulations present.	Clear & cool No recent rain.
13	02	River low & clear. Foam accumulations present.	
13	04	River clear but with fine TSS particles.Small foam patches on river.	
13	06	Slight turbidity. No foam.	
13	07	Effluent slightly turbid & foamy.	
13	09	Slight turb.Small foam patches midstream.	
13	10	River low & clear. Large foam accumulations present.	
13	11	Slight turbidity. Traces of foam.	
13	12	Nothing unusual.	
13	15	River clear. Traces of foam.	
13	21	River clear but with noticeable fine TSS. Traces of foam.	
13	23	River clear.Banks wet due to peaking at Kerr Dam?	
13	25	River clear. Minute traces of foam.	
9-14-85	27	River clear. No foam.	Frost last night. Cool & foggy.
14	29	Slight turbidity, soupiness.	
14	31	River clear.	
10-15-84	01	River mod.low & clear. Small patches of foam on river.	Cloudy,cool w/major snow & rain.
15	02	River clear & low.Numerous small patches of foam on river.	
15	04	River clear, noticeable fine TSS. Numerous small patches of foam.	
15	06	River clear.Small foam patches present.	
15	07	Effluent moderately turbid.	
15	09	Traces of foam.	
15	10	River very clear. Large foam accumulations present.	
15	11	Numerous small patches of foam.	
15	12	Nothing unusual.	
15	15	Slight turbidity,more so than Sta.11 Large patches of foam mid-river.	
15	21	River very clear.Traces of foam. Several large accumulations of foam between Stations 21 & 22.	
15	23	River very clear.	
10-16-84	25	River clear.	Partly cloudy,cool,dry
16	27	River clear.Pine pollen on surface.	
16	29	River low and very clear.	
16	31	River stage up and very clear.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
10-29-84	01	River stage up but very clear. Heavy periphyton growth. Numerous small patches of foam.	Cloudy, cool, windy, snowing.
29	02	River low & clear. Numerous pine needles on river. A few small patches of foam.	
29	03	Reservoir slightly to mod. turbid.	
29	04	River clear but w/lots of floating debris. Mod. amt. small foam patches.	
29	05	River up & clear. Traces of foam. Heavy periphyton growth.	
29	06	River clear. Traces of foam. Found dead rainbow trout along shore.	
29	07	Effluent highly turbid & very foamy.	
29	08	Very heavy periphyton growth. River very turbid. Sewage odor present. Little or no foam.	
29	09	River clear. Small foam patches present. Very heavy periphyton growth.	
29	10	River clr. Lge. accumulation of foam.	Clearing & cold.
29	11	River clr. Heavy periphyton growth. Mod. large patches of foam on river. Whitefish spawning.	
29	12	Nothing unusual.	
10-30-84	13	Heavy foam on river & in Marcure Slough. River bottom along right bank is stained. Seepage areas visible by high color. Heavy periphyton.	Cloudy, cool, snow in mountains
30	14	Very slight turbidity. Numerous large patches of foam.	
30	15	Very slight turbidity. Large patches of foam on river.	
30	16	Slight turbidity. Numerous large patches of foam on river & large accumulations along shoreline.	
30	17	Numerous lge. patches of foam on river & lge accumulations along shoreline.	
30	18	River clear.	Snowing heavily.
30	19	River clear. Med-sized foam patches.	
10-31-84	20	River clear. Traces of foam at most.	Clear, cold.
31	21	Water clr. Med-sized patches of foam.	
31	22	Slight turbidity. Traces of foam.	
11-01-84	23	Slight turbidity in part due to wave action.	Windy, cold.
01	24	River clr. Foam traces. Heavy periphyton.	
10-31-84	25	River clr. Accumulation of dirty foam in backwater.	
31	26	Reservoir clear.	
11-01-84	27	River low.	Cloudy, cold, snowing heavily.
01	28	Reservoir clear.	
01	29	River low & clear.	
01	30	Reservoir slightly cloudy. Heavy wave action. Row white foam out from right bank.	
01	31	River very low and clear.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
12-10-84	01	River slightly turb. Shelf ice restricting channel. Snow & ice floating down river.	Cloudy, rain/snow, fog, 37°F.
10	02	River below station under 80% ice cover. Station open, water clear. Slush ice present.	
10	04	River open blw dam & slightly turbid.	
12-11-84	06	River clr. Slush ice present. Some shelf ice.	Clear & cold.
11	07	Effluent moderately turbid.	
11	09	River clear. Some slush & shelf ice.	
12-10-84	10	River clr, mostly open. Ice coming down river. Foam accumulation present.	
12-11-84	11	Large algal particles in river & in samples. Numerous small foam patches.	
11	12	Champion ponds under ice cover.	
11	15	River clear but large algal TSS particles in river & in samples. Large patches of foam on river.	
11	20	River clear & less algal debris. Much slush ice.	
11	21	River clr w/some algal debris. Slush ice.	
11	22	River clr w/some algal debris. River open here but frozen across upstream.	
11	23	River clear, open, no slush ice.	
12-12-84	25	River clear. Minimal algal debris.	Cloudy, cool, snowing.
12	27	River high (due to peaking?) & clear.	
12	29	River clr. Half of reservoir under ice.	
12	31	Wet banks, no shoreline ice. River clr.	
1-14-85	01	River very clear. Channel restricted by shelf ice.	Cloudy, cool.
1-14-85	02	River below station under 100% ice cover. Open at station. River clr. Lots of slush ice.	
14	04	River open, clear, some slush ice.	
14	06	River clear. Shelf ice well out into channel & slush ice plentiful.	
14	07	Effluent moderately to highly turbid.	
14	09	River clear, under 90% ice cover.	
14	10	River froze over at Maclay Bridge. River mostly clear but anchor ice sloughing increases TSS. No foam.	
14	11	River clr & open. Noticeable algal particulate.	
14	12	No surface discharge. Sampled pond 12 outfall.	
14	15	River clear but algal particulate present. Channel open but lots of slush ice. No foam.	
1-15-85	21	River clear & very low.	Cloudy, warmer
15	23	River clear & moderately high. Ice jams along shoreline.	
15	25	River very clear.	Windy.
15	27	Reservoir under ice. River clear.	
15	29	River clear.	
15	31	River clear and low. Most of Cabinet Gorge Reservoir ice-free.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
02-13-85	01	Very slight turb. Snow & ice 4 feet deep along banks.	Partly cloudy, cool. Recent heavy snow.
13	02	River clr & under 85% ice cover.	
13	04	River clr but w/some algal particulate. Shelf ice prevalent.	
13	06	River clear. Much shelf ice.	
13	07	Effluent mod. to highly turbid.	
13	09	River clear & under 85% ice cover.	Warming
13	10	River very clear & mostly ice free.	
13	11	River clear but w/substantial amount of algal particulate.	
13	12	No direct discharge. Sampled Pond 12 overflow. Ponds under ice.	
13	15	Much algal particulate. River channel 95% ice covered.	
02-14-85	21	River clr. w/lots of slush ice. Sampled several miles below reg. site due to 100% ice cover there.	Clear & above freezing.
14	23	River very clr & under 100% ice cover. Sampled several mi. upstream in open area.	
14	25	River very clr & under 90% ice cover.	
14	27	River very clr & under 90% ice cover.	
14	29	River open and very clear.	
14	31	River very clr, very low & channel ice free.	
04-10-85	01	River mod. turb. Numerous small foam patches.	Clear, sunny. Highs in 70's
10	02	River mod. turb. Mod. amt of small patches of foam. Much sloughing algal particulate in water column.	
10	04	River mod. turb. Numerous small foam patches.	
10	06	River mod. turb. but less so than Sta. 04. Foam still present.	
10	07	Effluent w/only a very slight turb. Clearer than the river.	
10	09	River w/mod. turb. Traces of foam.	
10	10	Slight to mod. turb. w/fine TSS. Traces of foam but no accumulations.	
10	11	River mod. turb. Moderate amount of small patches of foam.	
10	12	Ponds ice free. Effluent looks typical.	
10	15	River mod. turbid w/considerable TSS. Mod. amt. lge, lofty patches of foam.	
10	21	River mod. turb. Lge. amt. of algal particulate. No foam on river; noticed sm. accum. nr. shore.	
10	23	River low & clr. No foam present.	
10	25	Slightly turb. & appears low. Exposed bars & shoreline.	
10	27	River low and clear.	
10	29	River clr. No foam. Most of ice off reservoir. Reservoir still drawn down but clear now.	
10	31	Very clear. No visible TSS or foam. Most ice off reservoir.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
03-18-85	01	Lowland snowmelt runoff.River stage up & highly turbid. Traces of foam.	Clear,windy,warm. High's in 50's.
18	02	Stage not up like Sta.01 but highly turbid. Lots of algal particulate & TSS.	
18	03	Reservoir very turb. Clark Fork arm ice free. Blackfoot arm under ice.	
18	04	River highly turb.w/considerable TSS including scoured algal particulate.	
18	05	Mod.high turb.appears less than Sta. 04.	
18	06	High turbidity with considerable TSS, sloughing algae.	
18	07	Effluent only slightly turb.River mostly ice-free.	
18	08	High turb.in plume of WWTP discharge. No apparent odor. Heavy periphyton. Dead sucker near shore.	
18	09	River mod.turb.Foam traces.Hvy periphyton growth.	
18	10	River very clear. Small patches of foam on river & accumulation along shoreline.	
18	11	Turbid with lots of TSS. Heavy periphyton. Traces of foam.	
18	12	Ponds under ice. Effluent typical looking and smelling.	
18	13	River appears turb.& colored by flashlight. Lge patches lofty foam.	
03-19-85	14	River turb. Lge patches lofty foam.	Clear, warm.
19	15	River appears turb. & colored by flashlight. Less foam than Sta.14	
19	16	River quite turb.Lots of TSS.Large patches foam on river & accumulating near shore. Foam here very unaesthetic.	
19	17	River turb. w/lots of algal particulate. Appreciable foam.	
19	18	River turbid. Snow & ice along shore.	
19	19	River mod. turb. Heavy periphyton. Small patches of foam on river.	
03-20-85	20	Moderate turbidity & TSS.	Cldy,cool,rain shwrs.
20	21	River highly turb.w/lots of TSS.Foam accum. along shore between here & Sta. 22	
20	22	Moderately turbid. High TSS.	
20	23	River stage low. High glacial flour green turbidity. Shoreline ice free.	
20	24	River stage down (wet shoreline), turbid. Lots of TSS. Heavy periphyton.	
20	25	River off color,turbid & Flathead green-tinted. Heavy periphyton.	
20	26	Reservoir turbid & green-tinted.	
20	27	River turbid & stage 8-10 ft.low. Moderate amt of medium-sized patches of foam.	
03-21-85	28	Reservoir drawndown 15 or more feet. Water very turbid & murky green.	Cloudy,cool,snow.
21	29	River clear.	
21	30	Reservoir clr w/green color.Reservoir ice-free.	
21	31	River clear.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
04-23-85	01	River moderately turbid.	Cloudy,cool,snowing.
23	02	River slightly turbid & stage up.	
23	04	River moderately turbid. Numerous small patches of foam.	
23	06	River moderately turbid. Stage up. No foam.	
23	07	Effluent slightly turbid. Clearer than river.	
23	09	River moderately turbid. No foam.	
23	10	River slightly turbid.Stage up.Traces of foam on river but no accumulations along shore.	
23	11	River only slightly turb.No significant foam.	
23	12	Nothing unusual.	
23	15	Considerable TSS, more than at Station 11. Considerable large,lofty patches of foam.	
23	21	River mod. turb.Numerous small patches foam & several accumulations.St.Regis R. clear.	
23	23	River cloudy green, moderately turbid.	
23	25	Slight to mod. turb. Moderate sized patches of foam on river.	
23	27	River only very slightly turbid. Stage very low due to Noxon drawdown. No foam.	
04-24-85	29	River very slightly turbid. Noxon Reservoir drawn down 30 feet.	Cloudy,cool,humid. Hvy snow/rain lastnight
24	31	River very slightly turbid.Traces of foam.	
05-08-85	01	Spring runoff occurring. River moderately Medium-sized patches of foam.	Cloudy,warm,rainshwrs. High near 70°F.
8	02	River turbid. No appreciable foam.	
8	04	River mod. turbid. Small patches of foam.	
8	06	River moderately turbid. Traces of foam.	
8	07	Effluent very highly turb,colored & foamy.	
8	09	River bank-full and roily.	
8	10	River slightly turbid.Small patches of foam on river but no accumulations.	
8	11	River moderately turbid. Traces of foam.	
8	12	Pond levels low.Surface disch.typical looking.	
8	15	River moderately turbid. Some large patches of foam on river.	
8	21	River w/slight to mod. turbidity & bank-full. Traces of foam. St.Regis R. up but clear.	
8	23	Very slight turbidity. Stage up.	
8	25	Slight to moderate turbidity. No foam.	
8	27	River mod.turbid & stage back up but still below normal. Intermittent large patches of lofty white foam (spilling at dam?).	
05-09-85	29	Very slight turbidity.	Clear, sunny & warm.
9	31	Slight turbid. Some foam (spilling at dam?).	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
05-22-85	01	River stage up considerably. Slight turbidity.	Clear, sunny, warm. High's near 80°F.
22	02	River stage up & very turbid. Reddish-brown colored.	
22	04	River very turbid.	
22	06	River very turbid & stage up.	
22	07	Effluent very highly turbid, colored and foamy.	
22	09	River very turbid.	
22	10	River mod. turbid.Brownish-green colored. Lots of floating debris.	
22	11	River stage up & turb. Traces of foam.	
22	12	Effluent typical looking. Ponds are low.	
22	15	River mod. turbid. Lots of fine TSS. Minimal foam on river.	
22	21	River moderately turbid. Noticeable TSS.	
22	23	River stage up into the willows & only slightly turbid.	
22	25	River stage high & with a mod. turbidity.	
22	27	River mod.turbid. Stage near normal.	
05-23-85	29	River only slightly turbid. Noxon Rapids Reservoir still down about 5 feet.	Clear, sunny, warm.
23	31	River clear. Stage low.	
06-05-85	01	River slightly turbid.Stage decreasing. Numerous small patches of foam. A small accumulation behind a point bar.	Cloudy, cool, rain showers.
5	02	River stage dropping. Moderate turbidity. Reddish-brown color gone.	
5	04	Moderate turbid. Numerous small patches of foam.	
5	06	Moderate turbidity. Traces of foam.	
5	07	Effluent appearance improved but foamy. Construction of new clarifier begun.	
5	09	Moderate turbidity. Stage declining.	
5	10	Slight turbidity. Stage declining. Small patches of foam on river but no accumulations.	
5	11	River moderately turbid. Traces of foam.	
5	12	Effluent typical-looking.Mill down for maint.	
5	15	Mod.turb. Line of large lofty foam patches midriver.	
5	21	River slightly to moderately turbid.	
5	23	Moderate turbidity. Stage up.	
5	25	River slightly to moderately turbid.	
06-06-85	27	River stage up. Moderately to highly turbid. Lofty patches of foam near left bank (spilling at dam?).	Cloudy, cool, heavy rain.
6	29	River moderately turbid. Noxon Reservoir stage normal.	
6	31	Slight turbidity. Stage up.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
06-18-85	01	River stage declining. Very slight turbidity. Cladophora blooming.	Clear, sunny, hot. High's in 90's °F.
18	02	River stage declining & clearing. Slight turbidity.	
18	04	Milltown drawdown underway. Slight to moderate turbidity.	
18	06	Slight turbidity. Little or no foam.	
18	07	Effluent only slightly turbid. Some foam.	
18	09	Slight turbidity. Traces of foam.	
18	10	River clear but with some algal TSS. Considerable number of small foam patches on river but no accumulations.	
18	11	River clear. Small patches of foam.	
18	12	Effluent typical-looking.	
18	15	River clear. Noticeable TSS & lofty foam.	
06-19-85	21	Very slight turbidity.	Clear, sunny, hot.
19	23	River stage up. Mod. turbidity & TSS.	
19	25	Slight turbidity. Traces of foam.	
19	27	River moderately turbid.Considerable amount of coarse organic TSS. Traces of foam.	
19	29	Slight turbidity.	
19	31	Very slight turbidity. No foam. Stage down.	
07-10-85	01	River clear & very low.	Partly cloudy, hot. High's 95-100°F.
10	02	River clear & low.	
10	04	River clear & low.	
10	06	River clear & very low.	
10	07	Effluent moderately turbid. Clarifier construction dewatering contributing 0.78 cfs to flow.	
10	09	River very clear & low.	
10	10	River very clear & low.Small patches of foam on river & a large accumulation near shore.	
10	11	River clear but w/noticeable algal particulate. Small patches of foam on river.	
10	12	No surface discharge. Sampled Pond 2. Effluent highly colored, almost black.	
10	15	River clear but w/noticeable algal particulate. Traces of lofty foam.	
07-11-85	21	River very low & clear.	Clear, hot, dry.
11	23	River high & moderately turbid.	
11	25	River very clear & low. Traces of foam.	
11	27	River low & clear. Traces of foam.	
11	29	River low & clear. Hit black bear on highway.	
11	31	River clear. No foam.	

Appendix D. Condensed Field Notes - Part 1
Shallow-water Monitoring

Date	Station Number	Observations and Remarks	Weather
07-29-85	01	River clear & low.	Partly cloudy, cool.
29	02	River very clear & low.	
29	03	Reservoir with a slight to moderate turbidity due to plankton or wave action.	Partly cloudy, warm.
29	04	River slightly turbid.	
29	05	River clear & low.	
29	06	River very slightly turbid.	
29	07	Effluent w/slight to mod. turbidity.Brownish cast.Quality fluctuating diurnall due to bulking problems & sludge pressing. About 1.55 cfs flow contributed by const.dewatering	
29	08	Slight turbid.in plume.Heavy periphyton growth.	
29	09	River low & very slightly turbid.	
29	10	River very clr & low.Foam accumulation present.	
07-30-85	11	River clear.	
07-29-85	12	No authorized surface discharge.Sampled leakage from discharge 002. Apparent high odor, color, solids content.	
07-30-85	13	River clear.	Clear, sunny, warm.
30	14	Nothing notable or unusual.	
30	15	Traces of foam. Heavy periphyton.	
30	16	River low & clear. Traces of foam.	
30	17	River low & clear. Heavy periphyton.	
07-31-85	18	River clear. Abundant Cladophora.	Cloudy, cool.
31	19	River low & clear.	
31	20	River clr. Foam traces.Cladophora sloughing	Cloudy, hot.
31	21	River clear. Abundant Cladophora.	
08-01-85	22	River clear.	
07-31-85	23	Very slight hint of turbidity. Stage normal.	
08-01-85	24	River clear & low.	Cool,cloudy,rainshwrs. Heavy rain last night
01	25	River clear.	
01	26	River clear.	Warming.
01	27	River clear.	
01	28	Reservoir clr but with visible plankton.	
01	29	River clear.	
01	30	Reservoir clear. Floating debris.	
01	31	Nothing notable or unusual.	

Appendix D. Condensed Field Notes - Part 2

Deep-water Monitoring

Date	Station Number	Observations and Remarks	Weather
03-05-84	03	Field notes lost	Cloudy,cool. 35° F.
03-06-84	13	"	Clear,sunny. 45° F.
6	15	"	
6	16	"	
03-07-84	17	"	Clear, sunny, warmer.
7	18	"	
7	19.5	"	
	20	This station not sampled spring 1984	
	20.5	"	
	21	"	
	21.5	"	
	22	"	
03-08-84	26	Sampled near sawmill.	Clear, mild in a.m.
8	28	Sampled near N.Shore campground.	Cldy,windy,cool in p.m.
8	30	Sampled near Heron.	
07-26-84	03	Mostly sand in Ponar grabs.	Clear & hot. 90's°F.
07-23-84	13	Sand, gravel, rocks & traces of organic matter in Ponar grabs.	High 70's° F. Light overcast.
23	15	Mostly rocks and some black organic matter in Ponar grabs.	
23	16	Sand, silt, small rocks, some black organic matter in Ponar grabs.	
07-24-84	17	Gravel, rocks in Ponar grabs.	Clear & hot. 90's° F.
24	18	Sand, rocks in Ponar grabs.	
	19.5	This station not sampled summer 1984.	
24	20	No comment recorded.	
24	20.5	Very fine sand in Ponar grabs.	
24	21	No comments recorded.	
24	21.5	Sand, gravel in Ponar grabs.	
24	22	No comments recorded.	
07-25-84	26	Sampled below sawmill. Muck in Ponar grabs.	Clear & hot. 100+°F.
25	28	Sampled near N. Shore campground. No comments on Ponar contents.	
25	30	Sampled below Bull River confluence. No comments on Ponar contents.	

Appendix D. Condensed Field Notes - Part 2

Deep-water Monitoring

Date	Station Number	Observations and Remarks	Weather
10-25-84	03	Sand, organic material in Ponar grabs.	Cloudy, cool, rain showers. 30's° F.
		River pool sampling discontinued.	
10-26-84	26	Sampled near boat dock. Ponar grabs contained nothing, rocks or fine silt.	Cloudy, cool, rain showers, 30's°F.
10-25-84	28	Sampled near Town of Trout Creek & below N.Shore Campground. Muck in Ponars.	
10-26-84	30	Sampled below Bull River confluence. No comments on Ponar contents.	
03-25-85	03	Black organic material with slight H_2S odor in Ponar grab samples.	Clear, sunny, cool.
		River pool sampling discontinued.	
03-25-85	26	Sampled near boat dock. Light-colored sediments in Ponar grab samples.	
03-26-85	28	Sampled near Town of Trout Creek and out from N. Shore Campground. Light-colored sediments in Ponars. Water turbid from Noxon drawdown.	Clear, sunny, windy and cold.
26	30	Sampled near Heron. Light-colored sediments in Ponar grab samples.	
07-29-85	03	Mostly organic material with some sand and silt in Ponar grabs.	Partly cloudy, warm.
		River pool sampling discontinued.	
07-29-85	26	Sampled below sawmill. Mostly organic material with some sand in Ponar grabs.	
07-30-85	28	Sampled near Town of Trout Creek and out from N. Shore Campground. Gravel, sand, silt, woody debris & fine detritus in Ponar grabs.	Clear, sunny, warm.
30	30	Sampled near Bull River confluence. Fine organic detritus in Ponar grabs.	

Appendix D. Condensed Field Notes - Part 3

Diurnal Dissolved Oxygen Monitoring

Date	Station Number	Observations and Remarks	Weather
08-08-84 08-09-84	01	Samples collected in a smooth run below a riffle along left bank.	Clear, sunny, warm at all stations throughout study period.
08-08-84 08-09-84	06	Samples collected in a smooth run along riprapped right bank.	
08-08-84 08-09-84	09	Samples collected in a run below a large eddy and along the right bank.	
08-08-84 08-09-84	11	Samples collected downstream of Harper's Bridge, right bank.	
08-08-85 08-09-84	15	Samples collected in a run along the riprapped right bank at Sixmile Station.	
	16	This station not monitored for diurnal dissolved oxygen & temperature in 1984.	
08-08-84 08-09-84	17	Samples collected in a run near the Petty Creek boat launch, left bank.	
08-08-84 08-09-84	19	Samples collected in a run just above the Lozeau Bridge, right bank.	
08-08-84 08-09-84	20	Samples collected in a run at boat launch above LaVista Bridge, right bank.	
08-08-84 08-09-84	21	Samples collected in a run just above the Tamarack Creek confluence, left bank.	
08-08-84 08-09-84	22	Samples collected in a run at the Hwy bridge just above Flathead R. confluence, right bank.	
08-08-84 08-09-84	23	Samples collected in a slow run at the boat launch several miles abv.the mouth, left bank.	
08-08-84 08-09-84	24	Samples collected in a run below the Plains Fairgrounds bridge, right bank.	

Appendix D. Condensed Field Notes - Part 3

Diurnal Dissolved Oxygen Monitoring

Date	Station Number	Observations and Remarks	Weather
08-07-85 08-08-85	01	Samples collected in same site as 1984 study.	Cloudy, cool, rain shwrs in morning 8-07-85. Clouds increasing in late afternoon. Cldy, windy, lightning storm with rain and/or hail after dark. Cloudy, cool, rain showers morning of 8-08-85. Similar weather at all stations.
08-07-85 08-08-85	06	Samples collected in same site as 1984 study.	
08-07-85 08-08-85	09	Samples collected in same site as 1984 study.	
08-07-85 08-08-85	11	Samples collected in same site as 1984 study.	
08-07-85 08-08-85	15	Samples collected in same site as 1984 study.	
08-07-85 08-08-85	16	Samples collected in a run above Ninemile Creek confluence, right bank.	
08-07-85 08-08-85	17	Samples collected in same site as 1984 study.	
08-07-85 08-08-85	19	Samples collected in same site as 1984 study.	
08-07-85 08-08-85	20	Samples collected in a run just above the Superior bridge, left bank.	
	21	This station not monitored for diurnal dissolved oxygen & temperature in 1985.	
08-07-85 08-08-85	22	Samples collected in same site as 1984 study.	
08-07-85 08-08-85	23	Samples collected in similar location to 1984 study.	
08-07-85 08-08-85	24	Samples collected in similar location to 1984 study.	

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